TECHNOLOGY DEPT:

PUBLIC LIBRARY 1941
JUL 24 1941
DETROIT

NATIONAL PETROLEUM NEWS

Plastics and Chemicals From Petroleum Bases

Development of a chemical industry stemming from petroleum and natural gas has already reached the point where diversified products are being made in considerable volumes. Further expansion will result from the stimulus to research and development programs to supply products needed in our defense effort .....Page R-226

Toluene from Petroleum---25 Years Ago

Two oil technologists tell of research, experimental work and the building of a commercial plant, at the start of the last war, to produce toluene from a petroleum base .....Page R-234

NEWS IN BRIEF

Oil maintenance and repair equipment given temporary A-10 priority rating. Page 20.

* * *

District 2 oil advisory committee to meet in Chicago July 29; District 3 meets to formulate program in Houston. Page 21.

* * *

Refinery interests represented on Deputy Oil Co-ordinator's advisory staff. Page 13.

* * *

Rigid oil price control in Canada may follow curb on sales. Page 22.

Gulf Coast refiners ask OPACS to rescind request that they peg min. 80 oct. ('39 Research) gasoline at 6c and maintain present differentials on lower grades. Graph and story on page 16.

* * *

Justice Department quizzes major companies on management. Page 20.

* * *

Ickes seeks voluntary 1/3 cut in gasoline consumption on East Coast. Page 14.

* * *

Cole pipeline bill passed by Senate: ICC amendment deleted. Page 13.

REFINING TECHNOLOGY EDITION

PROTECTION
At Low Cost

Fig. 166

Fig. 265

Fig. 285

Fig. 286

Fig. 165

Fig. 168

Morrison Line Strainers Are Built For Important Protection

A valuable pump is wrecked. A fine costly meter is utterly ruined. It happened because foreign substance was pumped through the lines into the highly important mechanisms.

Losses are increasing steadily due to leaky, inefficient swing joints.

These Morrison line strainers and swing joints, inexpensive though they are, will prevent many breakdowns and loss of time and products.

Please write for full information.

MORRISON BROS. COMPANY
OIL EQUIPMENT HEADQUARTERS
DUBUQUE, IOWA

COMING MEETINGS

JULY

Oil Burner Institute, Board of Directors Quarterly Meeting, Griswold Hotel, Eastern Point, Conn., Mon., July 21.

North Carolina Independent Oil Jobbers Assn., Summer Convention, Mayview Manor, Blowing Rock, N. C., Fri.-Sat., July 25-26.

AUGUST

National Assn. of Petroleum Retailers, 9th Annual Convention, LaSalle Hotel, Chicago, Ill., Tues.-Thurs., Aug. 19-21.

SEPTEMBER

American Chemical Society, Chalfonte-Haddon Hall, Atlantic City, N. J., Mon.-Fri., Sept. 8-12.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, Pelham Manor, N. Y., Tues., Sept. 9.

National Petroleum Assn., Hotel Traymore, Atlantic City, N. J., Wed.-Fri., Sept. 17-19.

Society of Automotive Engineers, National Tractor Meeting, Schroeder Hotel, Milwaukee, Wis., Thurs.-Fri., Sept. 25-26.

New Jersey Oil Trade Assn., Fall Golf Outing and Dinner, Braidburn Country Club, Madison, N. J., Thursday, Sept. 25.

National Lubricating Grease Institute, 9th Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Tues., Sept. 29-30.

OCTOBER

West Virginia Oil & Natural Gas Assn., Annual Convention, Clarksburg, W. Va., Wed.-Thurs., Oct. 2-3.

Twenty-Eighth National Foreign Trade Convention, Hotel Pennsylvania, New York, Mon.-Wed., Oct. 6-8.

National Safety Congress, Stevens Hotel, Chicago, Ill., Mon.-Thurs., Oct. 6-9.

Texas Mid-Continent Oil & Gas Assn., Beaumont, Tex., Tues.-Thurs., Oct. 9-11.

American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas, Tex., Thurs.-Sat., Oct. 16-18; Los Angeles, Calif., Thurs.-Fri., Oct. 30-31.

National Stripper Well Assn., Annual Meeting, Mayo Hotel, Tulsa, Okla., Mon., Oct. 20.

Independent Petroleum Assn. of America, 12th annual meeting, Tulsa, Okla., Mon.-Wed., Oct. 20-22.

Society of Automotive Engineers, National Fuels & Lubricants Meeting, Mayo Hotel, Tulsa, Okla., Thurs.-Fri., Oct. 23-24.

Oil Trades Association of New York, Annual Banquet, Waldorf-Astoria Hotel, New York, Tues., Oct. 28.

Society of Automotive Engineers, National Aircraft Production Meeting, Biltmore Hotel, Los Angeles, Calif., Thurs.-Sat., Oct. 30-Nov. 1.

California Natural Gasoline Assn., Los Angeles, Calif., Fri., Oct. 31.

NOVEMBER

American Institute of Chemical Engineers, 34th annual meeting, Cavilier Hotel, Virginia Beach, Va., Mon.-Wed., Nov. 3-5.

Society of Automotive Engineers, West Coast Transportation & Maintenance Meeting, San Francisco, Calif., Wed.-Thurs., Nov. 5-6.

American Petroleum Institute, 22nd Annual Meeting, St. Francis and Palace Hotels, San Francisco, Calif., Mon.-Fri., Nov. 3-7.

American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov 6-7.

Society of Automotive Engineers, National Transportation & Maintenance Meeting, Statler Hotel, Cleveland, Ohio, Thurs.-Fri., Nov. 13-14.

DECEMBER

New Mexico Oil & Gas Assn., Artesia, New Mex., Wed., Dec. 3.

Oklahoma Stripper Well Assn., Tulsa, Okla., Fri. Dec. 5.

JANUARY, 1942

Society of Automotive Engineers, Annual Meeting (and Engineering Display) Book Cadillac Hotel, Detroit, Mich., Mon.-Fri., Jan. 12-16.

FEBRUARY

Texas Oil & Gas Assn., Wichita Falls Tex., Sat., Feb. 28.

MARCH

American Society of Mechanical Engineers, Spring Meeting, Houston, Tex., Mon.-Wed., March 23-25.

APRIL

National Petroleum Assn., 39th Semi-Annual Meeting, Hotel Cleveland, Cleveland, O., April 16-17.

MAY

International Petroleum Exposition, Tulsa, Okla., Sat.-Sat., May 16-23.

JUNE

American Society of Mechanical Engineers, Semi-Annual Meeting, Cleveland, Ohio, Mon.-Thurs., June 8-11.

OCTOBER

American Society of Mechanical Engineers, Fall Meeting, Rochester, N. Y., Mon.-Wed., Oct. 12-14.

NATIONAL PETROLEUM NEWS

JULY 23, 1941

NEWS

August Motor Fuel Demand Reaches 'All-Time High', with Increase of 13% 13

Pennsylvania Legislature Approves Commonwealth Joining Interstate Oil Compact; if Governor Signs Bill, New York also Becomes a Member 13

Advisors in Oil Co-ordinator's Office Listed 13

Rigid Oil Price Control in Canada May Follow Curb on Sales; Dealer Head Suggests U. S. Adopt Canada's Conservation Plan 14

G.C.R.A. Protests OPACS' 6c 'Ceiling' on 80 Octane Gasoline 14

Ickes Asks 19 Oil Companies to Furnish Gasoline Sales Data 14

Voluntary 'Gas' Curtailment of 33 1/3% Sought in 16 Eastern States by Ickes 15

Government's New Tanker Program Reaches 'Visible Results' Stage 25

Texas Railroad Commission Asks Help from District Oil Committee 3 on State Production Puzzle 26

MERCHANDISING

Standards, Merchandising in Tire Renewal Business Probed for Oil Marketers 27

Fast Handling of Trucks Provided at New Great Lakes Terminal 32

MARKETS

Mid-Continent 39
Pennsylvania 39
California 39
Atlantic Coast 39
Gulf 39
Mid-Western 39
Refinery Prices.....40-41
Seaboard Prices 42
Tank Wagon Prices 43, 44
Crude Oil Prices..45, 46

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Published every Wednesday by The National Petroleum Publishing Co.

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Member of Audit Bureau of Circulation and Associated Business Papers Inc.

Publication office: 1213 W. Third St., Cleveland, Ohio, U.S.A. Telephone, CHerry 7672. Cable Address PLATTOIL, Cleveland. Cable inquiries are answered by mail unless subscriber advances sufficient funds in American money to cover our cable costs.

NEWS BUREAUS

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Los Angeles, 610-A Hillstreet Bldg., 815 South Hill Street, Telephone, VAndike 2845.

Chicago, 59 E. Van Buren Street, Telephone, Harrison 5901-2-3.

Subscription rate $3 per year in United States and Mexico; $4.50 in Canada and Foreign Countries. Current copies 15 cents, except special issues; back copies more than two months old 25 cents per copy.

THIS WEEK WITH NPN

RETREADING AND 'RECAPPING'

While gathering material for NPN's tire renewal and retreading articles (first of which ran in the July 16th issue), the staff writer inadvertently placed his new Stetson straw hat on a vulcanizing machine. Upon his return home, a $10 item was questioned on his expense account. "How come?" said the treasurer. To which our man pointed to his burned hat along side of a new one and said, "Recapping, see?"

ENVELOPE TRAVELS

Varied was the traveling of the envelope below, addressed to a company in care of NPN. Originating in India, the letter went to Hong Kong, thence to Chungking, then through British censors' hands, finally being placed on a Clipper which rushed it to San Francisco. It crossed the U. S. and finally reached NPN's Cleveland office. The last leg of its round-the-world trip started when NPN forwarded it to its rightful owners.

FIRST WITH NPN

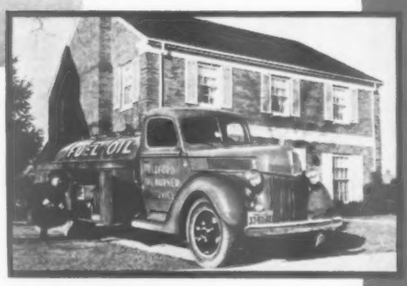
Another "first" for NPN was recorded in last week's issue, when we stated that the British would ask for 100 more tankers for war aid. Four days later, a leading New York City newspaper said the same thing in a front-page story. Proud? Sure!

HELPING JOBBERS

How jobbers can make and save money through the equipment and services is shown in ads of seven companies in this issue. Five others tell how their equipment increases service station sales, while five more tell of important features of their products.

Survey results give big edge to T

Metering Pays!
CONTROL—SAVE—PROFIT
by Meter Audit



RED SEAL
Fuel Oil Merchandising Plan

Obtainable free with the purchase of any Neptune RED SEAL Print-O-Meter model. Plan provides material and instructions for a complete sales promotion campaign to increase your fuel oil business. Dealer-mania posters . . . attractive folders . . . blotters . . . forceful ads . . . circular letters . . . everything you need. A fully tested Plan that has brought new trade and profits to hundreds of fuel oil distributors.

(Top Right)—View of Neptune RED SEAL Compact Meter with Print-O-Meter Register, Model 334, installed in fuel oil delivery truck of Arthur Kuesel Coal Co., Milwaukee, Wis.

(Middle)—RED SEAL-Metered delivery from Heil-built truck of National Oil Company, Milwaukee.

(Bottom)—Redford Oil Burner Service, Detroit, has its truck equipped with RED SEAL Compact Meter, with Print-O-Meter Register. When photo was taken, over 400,000 gallons had passed through this 1¼" meter without need of meter recalibration. Truck tank built by Owosso Tank Co.

NEPTUNE

Ticket-Printer Metering

of Fuel Oil deliveries

ITS CONVENIENCE AND THE REASSURANCE IT BRINGS TO CUSTOMERS ARE STRONG BUSINESS-BUILDING FACTORS

● What are the customers' preferences? Find the answer and profit by it—and you are well on the way toward a merchandising success.

A recent survey was conducted scientifically, in a New England metropolitan area, among representative householders who use fuel oil in their central-heating systems. These folks, who were interviewed personally, expressed themselves with entire frankness as to their preferences in fuel oil buying. Consequently, their responses afforded a good cross-section of opinion on general consumer reaction to metering practices in fuel oil deliveries.

Here's a significant finding:

64% of all persons interviewed, emphasized the importance of getting a Stamped Delivery Ticket. They favored this "receipt"—stamped by ticket-printing meter—because it served as a "guarantee" of accurately metered delivery—(full value received)—and simplified their record-keeping.

The survey showed further that the chief factor in consumers' choice of a fuel oil supplier was "satisfactory service" . . . cited by 41.4% of the persons interviewed. ("Friendship for the supplier" accounted for 23.6%; and "reputation of the firm" for 18.6%).

Therefore it is safe to assume that, from the viewpoint of these consumers, ticket-printer metering contributes to both "satisfactory service" and to the "reputation" of the fuel oil marketer.

Such findings merely confirm the experience of fuel oil distributors throughout the country. Marketers whose delivery tank trucks are equipped with Neptune RED SEAL Print-O-Meter models, have sent us a sheaf of reports from which we quote several excerpts. Back of them all is a story of consumer good-will gained and shortage claims avoided.

● "The only way in which both customer and truck operator are fully protected, saving endless disputes as to gallonage."

● "Have improved the efficiency of deliveries. The meters eliminate any possibility of dispute as to the number of gallons delivered to the consumer, as it is as easy to record one gallon as it is 1,000 gallons through a ticket-printing meter. We service a number of independent haulers of fuel oil, and with very few exceptions these trucks are equipped with Neptune RED SEAL ticket-printing meters."

● "The ticket-printing feature of these meters has been of considerable assistance to the Sales Department in soliciting new business, and the Accounting Department also reports increased efficiency due to the printed delivery receipts simplifying the bookkeeping and reducing mailing costs."

"You will gather from the above that the Neptune RED SEAL Compact Auto-Stop Ticket-Printing Meters have justified the confidence which we placed in them when we equipped our tank truck fleet 100% Neptune." (This fuel oil distributor operates in the area covered by the New England survey.)

Metering fuel oil by ticket-printer is unquestionably the most modern delivery method—approved by consumers and oil marketers wherever it has been introduced. Have you our Bulletin No. 591? It gives helpful information on the various popular types of RED SEAL ticket-printer meters . . . together with better-business hints.

NEPTUNE METER COMPANY, World's Largest Manufacturers of Liquid Meters. Main Office: 50 West 50th Street, New York, N. Y. Branches at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City, Los Angeles, Louisville, Philadelphia (Philadelphia Meter Co.), Portland (Ore.), San Francisco, Toronto.

Gasoline Dispensing Pumps • Meters for: Barge or Tank Car Unloading Storage Transfer • Loading Rack • Delivery Tank Truck.

1703

RED SEAL METERS

GREATER PROFIT PER UNIT OF SALE

At a time when future sales volume is a matter of complete uncertainty, it is vitally important for distributors and dealers to net a greater profit per unit of sale.

For more than 40 years MONOGRAM OIL has been sold on terms that net its marketers a most attractive profit. Its low sales cost has been shared with the trade in the form of reduced net prices.

You can make an exceptional profit on MONOGRAM MOTOR OIL AND GREASES. And no more readily salable brand has ever been put on the market.

Our point-of-sale advertising will bring immediate business—and the superfine quality of this famous and long-established oil will keep your customers coming back for more.

MONOGRAM OIL

For details address—

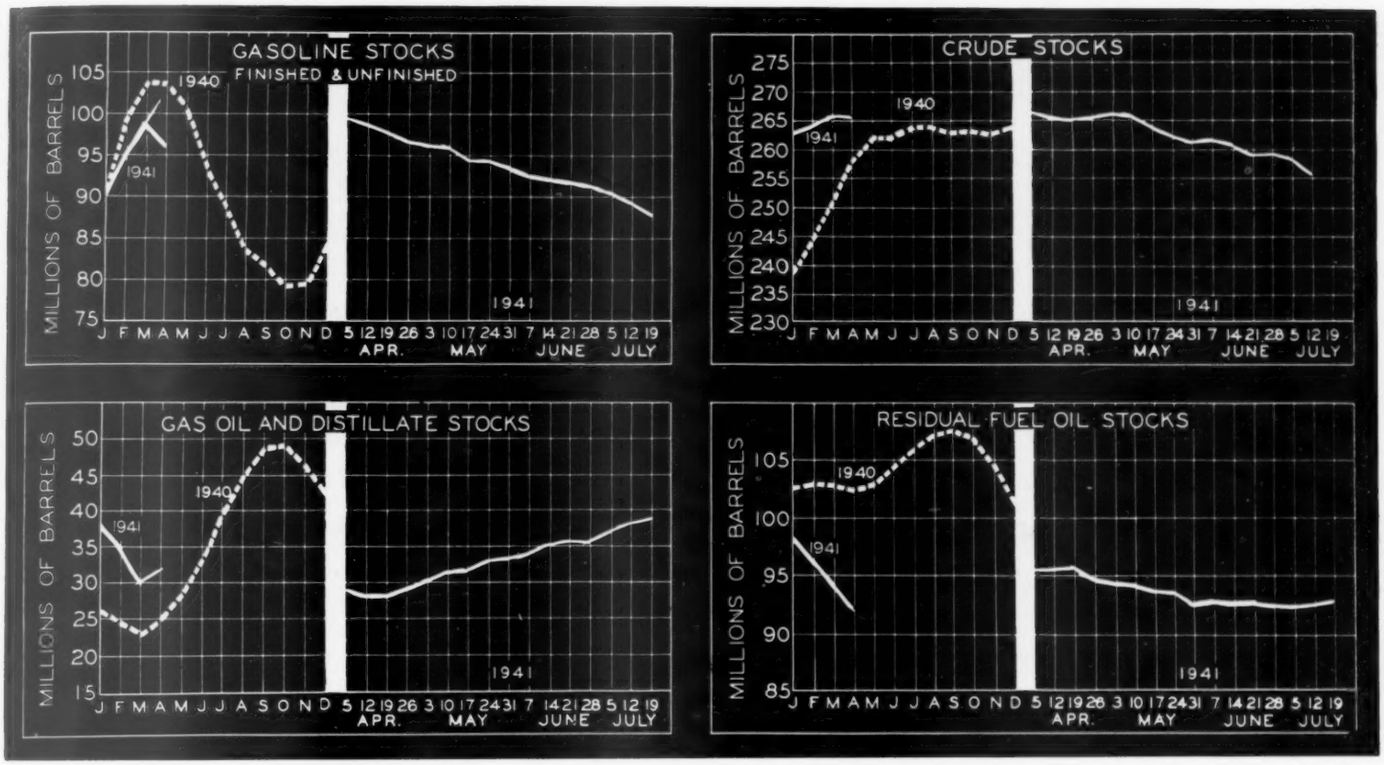
NEW YORK LUBRICATING OIL CO.

116 BROAD STREET • NEW YORK, N. Y.

Sales Offices and Warehouses

NEW YORK PHILADELPHIA BOSTON CHICAGO

•STATISTICS•


GASOLINE STOCKS
FINISHED & UNFINISHED
MILLIONS OF BARRELS
1940
1941
CRUDE STOCKS
GAS OIL AND DISTILLATE STOCKS
RESIDUAL FUEL OIL STOCKS
J F M A M J J A S O N D 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19
APR. MAY JUNE JULY

A.P.I. Report of Refinery Operations

(Figures in Thousands of Barrels of 42 Gallons Each)

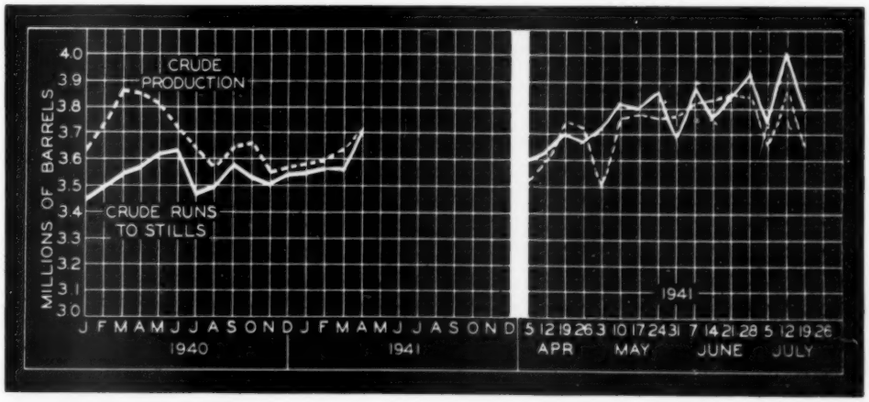
Districts	Daily Average Crude Runs to Stills, Week Ended		Per Cent of Reporting Capacity Operated, Week Ended		Gasoline Production at Refineries incl. Natural Blended, Week Ended		Total Stocks Finished & Unfinished Gasoline, Week Ended		Total Stocks Gas Oil & Distillates, Week Ended		Total Stocks Residual Fuel Oil, Week Ended		Stocks Aviation Gasoline Included in Finished & Unfinished Gasoline Total, Week Ended	
	July 19	July 12	July 19	July12	July 19	July 12	July 19	July 12	July 19	July 12	July 19	July 12	July 19	July 12
East Coast	570	644	84.7	95.7	1,642	1,733	21,932	22,364	11,511	10,835	8,775	8,262	**East Coast**	
Appalachian	137	149	98.6	107.2	507	486	3,003	3,114	425	422	536	517	853	893
Ind., Ill., Ky.	638	680	100.5	107.1	2,434	2,631	16,534	16,742	4,207	4,010	3,840	3,752		
Okla., Kans., Mo.	298	328	89.5	98.5	1,087	1,271	6,837	7,039	1,515	1,493	2,075	2,070	**Interior**	
Inland Texas	147	152	88.6	91.6	626	681	2,190	2,196	381	381	1,266	1,273	1,135	1,095
Texas Gulf	906	1,005	90.7	100.6	2,953	3,284	11,549	11,800	6,830	6,882	7,980	7,971	**Gulf Coast**	
La. Gulf	146	141	104.3	100.7	389	404	3,310	3,244	1,490	1,466	1,347	1,283	3,557	3,488
N. La., Ark.	46	58	97.9	123.4	132	162	392	447	233	250	458	435		
Rocky Mt.	62	68	91.2	100.0	246	232	1,402	1,416	139	143	492	492	**California**	
California	515	524	72.0	73.3	1,226	1,596	14,721	15,049	11,181	11,135	64,807	65,129	1,840	1,751
Reported	3,465	3,749	88.5	95.8	11,242	12,480	81,870	83,411	37,912	37,017	91,576	91,184	7,385	7,227
Estimated Unreported	340	341			1,320	1,540	6,050	6,150	820	795	1,515	1,515	355	350
U. S. Total*	3,805	4,090			12,562	14,020	87,920	89,561	38,732	37,812	93,091	92,699	7,740	7,577
U. S. Total 7-19-40*	3,481				11,214		90,954		36,968		105,499		5,382	

* Estimated, U. S. Bureau of Mines basis.

U. S. Crude Oil Production

(American Petroleum Institute figures)

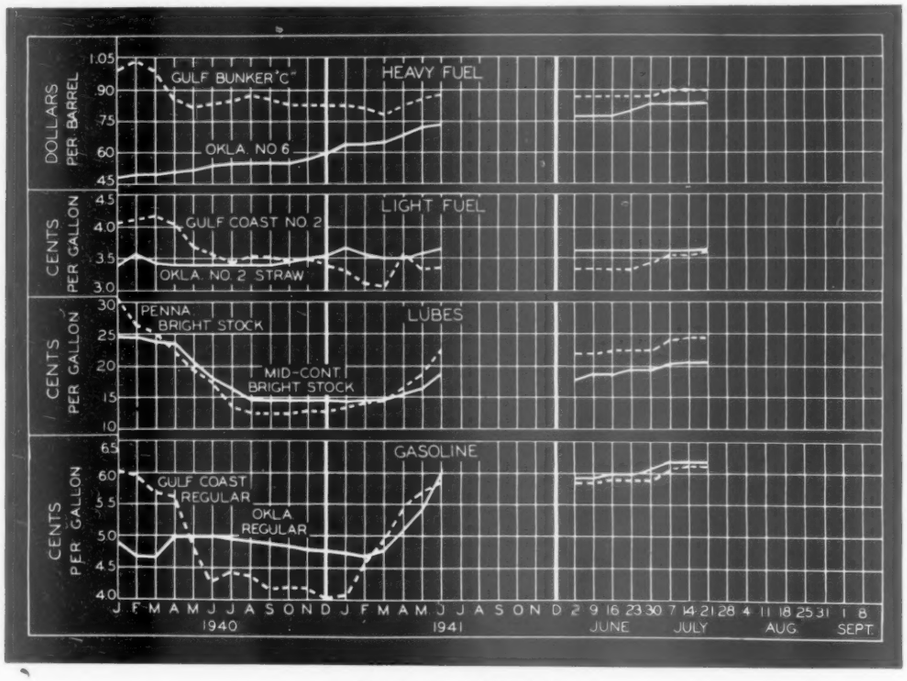
	Week Ended July 19 Barrels (Daily Average)	Week Ended July 12 Barrels (Daily Average)
Oklahoma	421,800	412,950
Kansas	239,050	233,800
Nebraska	5,200	5,050
Texas	1,231,250	1,437,000
Louisiana	320,600	314,100
Arkansas	73,100	72,350
Mississippi	47,250	42,200
Illinois	332,850	341,650
Indiana	19,600	22,450
Eastern (Ill. & Ind. excl.)	90,950	89,900
Michigan	40,550	39,650
Wyoming	83,450	85,500
Montana	19,400	19,400
Colorado	3,950	3,800
New Mexico	106,550	111,350
California	640,500	639,600
Total U. S.	3,676,050	3,870,750
Crude Imports	140,430	139,855
Total New Supply	3,816,480	4,010,605


MILLIONS OF BARRELS
CRUDE PRODUCTION
CRUDE RUNS TO STILLS
1940
1941
J F M A M J J A S O N D J F M A M J J A S O N D 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
APR MAY JUNE JULY

·STATISTICS·

REFINERY PRICES

Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram Weekly prices are averages of high and low p rices shown in Monday Oilgram, and in NPN



Oil Burner Statistics

(Compiled by U. S. Bureau of Census. Figures include burners consuming Commercial Standard No. 1 fuel oil, or heavier.)

Item	1941 May	1941 April	1940 May	1939 May	Total 5 Months (January-May) 1941	Total 5 Months (January-May) 1940	Total 5 Months (January-May) 1939
New Orders, less Cancellations	36,194	23,642	18,154	15,284	116,690	71,273	56,033
Unfilled orders, end of month	22,612	15,266	4,700	5,456	.....	.....	.....
Shipments							
Total	28,848	22,819	17,829	15,009	102,121	69,478	52,732
United States	28,646	22,652	17,586	14,441	101,100	68,014	50,587
Canada	123	79	107	61	517	418	240
Foreign	79	88	136	507	504	1,046	1,905
Stocks, end of month	25,682	23,701	19,239	20,214	.....	.....	.....

Production and Inventory of Pennsylvania Lubricating Oils

(Compiled by National Petr. Ass'n. from reports of all companies which refine Penna. crude. Figures in bbls. of 42 gals.)

	Total Production For June, 1941	Inventory June 30,1941	Inventory May 31,1941	Inventory June 30, 1940
1—RAW LONG RESIDUUM (includes all raw long residuum below, and not salable as 600 fire)	79,014	48,327	38,081	24,983
2—600 STEAM REFINED STOCK (includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock)	278,492	248,990	265,824	243,021
3—OTHER STEAM REFINED STOCK (not included in 1 & 2 above)	55,859	109,309	93,850	83,608
4—FINISHED DEWAXED LONG RESIDUUM	57,291	33,355	37,018	62,095
5—BRIGHT STOCK (does not include any material reported in 4 above)	165,252	280,019	351,450	477,756
6—VISCOUS NEUTRAL, below 180 vis. but not below 142 vis. at 100	97,900	52,735	58,049	189,762
7—VISCOUS NEUTRAL, 180 vis. at 100 and above	98,874	85,061	92,459	120,633

Pennsylvania Crude Runs

(Compiled by National Petroleum Assn. from reports of all companies that refined Pennsylvania crude. Figures in barrels.)

Week Ended	Daily Average
Jan. 4	60,635
Jan. 11	71,543
Jan. 18	75,854
Jan. 25	74,429
Feb. 1	74,363
Feb. 8	75,735
Feb. 15	73,712
Feb. 22	71,890
Mar. 1	68,969
Mar. 8	65,810
Mar. 15	76,617
Mar. 22	73,851
Mar. 29	73,592
Apr. 5	75,127
Apr. 12	72,045
Apr. 19	76,970
Apr. 26	79,147
May 3	71,827
May 10	72,608
May 17	73,322
May 24	77,003
May 31	78,235
June 7	67,639
June 14	79,514
June 21	75,020
June 28	74,440
July 5	71,340
July 12	80,616
1940 Low	58,516
1940 High	85,584

Inventories, June 30, 1941, Pennsylvania Oils Other Than Lubricating Oils

(Compiled by National Pet. Ass'n. from reports of oil region refiners. Figures in barrels.)

1—NAPHTHAS & GASOLINE	
(1) Straight run, unblended and/or unleaded, for sale as motor fuel	22,939
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery for further distillation, reforming, blending or leading	187,509
(3) Below 65 octane, not included in (1) or (2) above	7,185
(4) 65 octane & above	365,664
2—Salable naphthas other than motor fuel material (does not include Refinery Process Naphthas)	24,411
3—Kerosine	69,420
4—36-40 gas oil (includes furnace oil)	62,504
5—Fuel oil (not reported above)	33,113
6—Oils held as cracking plant charging stocks	318,244
7—Non-viscous neutral	14,494
8—Wax distillate	89,443
9—Crude petrolatum	16,161
10—Wax (lbs.)	7,101,301

NPN Gasoline Index

	Dealer T.W. (Cents per Gallon)	Tank Car (Cents per Gallon)
July 21	9.92	6.70
Month ago	9.87	6.56
Year ago	8.99	5.40

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following wholesale markets for regular-grade gasoline: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston, Gulf Coast.

Crude Oil Stocks

(U. S. Bureau of Mines figures; thousands of barrels)

Grade or origin	July 5	July 12	Change
Pennsylvania Grade	4,222	4,176	— 46
Other Appalachian	1,480	1,416	— 64
Lima-Michigan	1,000	1,008	+ 8
Illinois-Indiana	19,695	19,024	— 671
Arkansas	2,513	2,394	— 119
Kansas	8,579	8,403	— 176
Louisiana:	12,293	12,805	+ 512
Northern	4,170	4,116	— 54
Gulf Coast	8,123	8,689	+ 566
Mississippi	1,660	1,805	+ 145
New Mexico	7,615	7,648	+ 33
Oklahoma	57,217	56,726	— 491
Texas:	88,272	86,198	—2,074
East Texas	22,221	21,835	— 386
West Texas	16,459	15,970	— 489
Gulf Texas	25,137	24,119	—1,018
Other Texas	24,455	24,274	— 181
Rocky Mountain	16,080	16,092	+ 12
California	35,074	35,393	+ 319
Foreign	2,370	2,479	+ 109
Total U. S. refinable	258,070	255,567	—2,503
Heavy in California	10,578	10,405	— 173
East Coast[1]	12,790	11,955	— 835

[1] Domestic and foreign crude petroleum (included above by origin) stored at East Coast refineries. Previous note has been incorrect in that about 600,000 barrels tank-farm stocks are not included in these weekly compilations.

Summary of Bureau of Mines Forecasts

(Figures in Barrels)

	Forecast August, 1941	Forecast July, 1941	Actual August, 1940
Demand for Motor Fuel[1]:			
Domestic demand	62,500,000	60,300,000	55,346,000
Exports	2,200,000	2,000,000	2,087,000
Re-exports	[2]	[2]	.....
	64,700,000	62,300,000	57,433,000
Supply of Motor Fuel:			
Straight-runs and cracked gasoline production	54,600,000	53,420,000	47,707,000
Natural gasoline used at refineries	3,400,000	3,280,000	3,081,000
Total refinery production	58,000,000	56,700,000	50,788,000
Benzol and other natural gasoline	1,800,000	1,800,000	1,752,000
Imports	[2]	[2]	2,000
Decrease in finished stocks	4,900,000	3,800,000	4,891,000
Available supply	64,700,000	62,300,000	57,433,000
Crude-Oil Requirements:			
Per cent yield of gasoline from crude	45.00	44.98	43.87
Refinery crude required	121,340,000	118,760,000	108,756,000
Daily average	3,914,000	3,831,000	3,508,300
Foreign crude runs	4,200,000	3,900,000	4,418,000
Exports	3,500,000	2,900,000	4,170,000
Fuel and losses	1,500,000	1,500,000	1,432,000
Total demand for domestic crude	122,140,000	119,260,000	109,940,000
Daily average	3,940,000	3,847,100	3,546,500
Increase in domestic stocks	.....	.....	583,000
Actual production	.....	.....	110,523,000
Daily average	.....	.....	3,565,300

[1] The term "Motor Fuel" as used in this report includes gasoline, naphtha, and benzol used for all purposes, but does not include heavier distillates used in the operation of tractors or burned in Diesel engines.

[2] Motor fuel imported in bond to be re-exported is excluded from the forecasts of both imports and exports.

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JOHN A. BROWN

General Committee Chairman Of Vital District No. 1 . . .

An oil man of 30 years' experience—in the U. S., Mexico and the Dutch East Indies—took over the job of heading the industry's most vital region in the defense set-up when John A. Brown, New York, president of Socony-Vacuum Oil Co., Inc., was appointed general committee chairman of District 1.

Born in Adams County, Pennsylvania, and educated at Girard College, Philadelphia, Mr. Brown's first job was general helper to an agent for Philadelphia hardware manufacturers. He was later connected with the coal-mining business in Pennsylvania.

In 1911, young Mr. Brown went to California as secretary-treasurer for a small oil producing company. He had charge of Standard Oil Co. of New Jersey's business in Mexico from 1919 to 1926, when he was sent to the Dutch East Indies, in charge of Jersey Standard's operations there.

Returning to the U. S. in 1928, Mr. Brown resigned from the Jersey company to become vice-president of General Petroleum Corp. of California. Two years later, he was made president of General, and in 1933 he became chief executive officer of Socony-Vacuum Oil Co., Inc. He has been a director of American Petroleum Institute since 1932.

NATIONAL PETROLEUM NEWS

VOLUME 33 WEDNESDAY, JULY 23, 1941 NUMBER 30

Pipeline Bill Passes Senate

BULLETIN

WASHINGTON — Cole pipeline bill was sent to the White House this afternoon for President Roosevelt's signature.

* * *

NPN News Bureau

WASHINGTON, July 21—Cole pipeline bill passed the Senate today, without the Interstate Commerce Commission amendment which would have prevented the President from granting exemptions — beyond June 30, 1943—for pipelines built under the Cole bill.

Senate approval of Cole measure in same form as it passed the House came, however, only after Oil Co-ordinator Ickes had agreed to consult with the ICC before any Elkins Act exemptions are granted to pipelines. ICC in turn agreed to withdraw demands for the inclusion of its amendment in the Cole bill.

Terms of this "compromise" between the Oil Co-ordinator's office and the ICC were incorporated in a letter from Mr. Ickes to Sen. Stewart, Tenn., under date of July 21. Mr. Ickes' letter, which Sen. Stewart read on the Senate floor, stated the purpose of the consultations between the co-ordinator's office and the ICC was to make certain that pipelines granted exemptions from the ICC and related acts including the Elkins Act would "conform as fully as possible" with these laws.

Agreement to drop the ICC amendment was worked out in conference between members of the House Oil Investigating Subcommittee.

Press-time Bulletins

MARKETING GROUP MEETS

NEW YORK—Marketing committee of Distict 1 held its first meeting here today with H. W. Dodge, chairman, presiding. Press was excluded.

Following the meeting, Dr. John W. Frey, associate director of Interior Department's conservation division and local government representative for District 1 marketing committee, said he had "asked a number of questions." He received

(*Continued on page* 20)

Oil, Tanker Pool Planned As Aid to Latin Republics

NPN News Bureau

WASHINGTON, July 22. — Plans for pooling of petroleum supplies and tankers to prevent and undue hardship on Latin American countries, resulting from efforts to abate impending oil shortage on East Coast, are being worked out by Oil Co-ordinator's office.

"Our good neighbor policy," said Mr. Ickes today, "demands that we share and share alike, and that is what we will do in solving the many difficult problems confronting all of the American republics as a result of the severe dislocation of the transportation services upon which we all depend."

Transfers Tied In

This apparently ties into plans for furnishing the British with 100 more tankers which are reported to include pooling of all western hemisphere tankers, as was forecast exclusively in NPN last week.

Tankers-for-Britain situation has grown ticklish in past few days with Co-ordinator Ickes clamping on the lid after a conference with tanker owners and others in his office Monday. Mr.

(*Continued on page* 20)

Ickes Approves Crude Line From Texas to East Coast

NPN News Bureau

WASHINGTON, July 22—Approval of a 250,000 bbl. crude line from East Texas to the East Coast via St. Louis, costing $70,000,000, was announced today by Oil Co-ordinator Ickes. Mr. Ickes also announced approval of plans for Maritime Commission to build 40 to 50 more high-speed tankers, in addition to the 139 now under construction or contract.

Further consideration should be given by the oil industry to a products line from the Gulf to the Atlantic seaboard, Mr. Ickes then said, stating he had withheld announcement of his approval of the crude line until Congressional action had been completed on the Cole pipeline bill.

Priority for Steel

Mr. Ickes said he is prepared to recommend priorities for steel and machinery needed both for the crude line and the tanker building program. He cautioned, however, that even under ideal conditions, the crude line will take at least 8 months to build, and therefore "will not be a factor in abating the East Coast situation for some time."

Companies listed by Mr. Ickes as expecting to unite in the joint construction of the East Coast crude line are:

Socony-Vacuum, Cities Service, New Jersey Standard, Atlantic, Tide Water, Shell, Gulf, Texaco, and Consolidated.

Crude pipeline, according to Mr. Ickes, "would originate in the East Texas oil fields and proceed as a 20-in. line to a point in Illinois, east of St. Louis, and probably in the general neighborhood of Nashville, Ill. This 20-in. line would have a daily capacity of 200,000 bbls. at its Illinois terminal. The 20-in. line from Texas could connect with a 16-in. line originating at Wood River, Illlinois, where other lines from the Mid-Continent and Texas fields now terminate. The proposed 16-in line would have a maximum capacity of 115,000 bbls. daily.

24-in. Line to East

"From the junction of the two lines, a 24-in. crude oil pipeline with a daily capacity of 250,000 bbls. would be constructed to the Atlantic Coast, terminating in the Philadelphia and New York refining areas.

"Although the combined daily capacity of the 20-in. line from Texas and the 16-in. line from Wood River totals 315,000 bbls., the capacity of the 24-in. line after the junction is made will be 250,000 bbls. This excess capacity of the two feeder lines is intended so as to obtain a greater flexibility in procuring crude oil for transportation on to the East Coast."

"So routed," the co-ordinator said, "the main line, with the necessary feeder line connections, will reach the principal sources of oil production east of the Rocky Mountains, and thus will be supported with a maximum of crude reserves." (Probability that the St. Louis route would be chosen was indicated in NPN, July 2, in an article which also listed all routes under consideration.—Editor.)

August Motor Fuel Demand Up 13% to 'All Time High'

NPN News Bureau

WASHINGTON, July 19—An all-time high for August motor fuel demand was predicted by the Bureau of Mines here today. Increase of 13%, or 62,500,000 bbls., over a rather low actual demand in August 1940, is anticipated.

Progress in transportation readjustments necessitated by the withdrawal of tankers from the Gulf to East Coast movement indicates less curtailment of Gulf Coast markets in August than might have been anticipated, Bureau declared, conditioning this statement on no further diversion of tankers to British service.

Stepping up deliveries by remaining tankers in service, the shift in tankers from the California-Atlantic service to the Gulf-East Coast route, increased overland shipments, and participation in larger exports and increasing naval requirements may offset to a considerable extent the loss of Gulf Coast markets due to the curtailment in East Coast consumption, Bureau continued.

Bureau estimated June increase in East Coast district stocks at 2,000,000 bbls. (500,000 bbls. crude and 1,500,000 bbls. refined) as against 5,366,000 bbls. (2,295,000 bbls. crude and 3,071,000 refined) in the same month of 1940. East Coast stocks totaled 66,743,000 bbls. on May 31 of this year as compared to 67,733,000 bbls. on May 31, 1940.

August motor fuel exports were forecast by Bureau at 2,200,000 bbls. Daily average supply of crude to meet August market demand was estimated at 3,940,000 bbls., a figure 11% above the actual demand for that month last year. It should be noted, Bureau commented, that the crude demand for August, 1940, was abnormally low.

(Figures on estimated August gasoline production and crude-oil demand appear on Statistical page).

Ickes Asks 33% Curtailment; Compulsory Rationing Waits

By A. M. PETTY, NPN News Editor

By Teletype

WASHINGTON, July 22. — For the present, Oil Co-ordinator Ickes continues to bank on voluntary curtailment of oil consumption on East Coast, although shying away from recommending any specific methods for curtailment.

Latest move of Mr. Ickes was an appeal for a blanket 33% reduction in civilian gasoline consumption, coupled with a warning that such a cut was necessary if rationing is to be avoided. This appeal went out to the governors of 16 eastern states, oil companies operating on the East Coast and other agencies.

Tieing into this, was a request that eastern companies report weekly on their gasoline sales to dealers and at their stations. This is to provide a check-up on trend in consumption, to show whether or not curtailment plans are succeeding.

Is Ickes Marking Time?

Belief is growing that this voluntary move — and perhaps others to follow — are actually to "fill in" until a compulsory curtailment plan can be worked out in detail. The co-ordinator has indicated that he isn't overly-optimistic that any kind of voluntary curtailment will be successful.

Ickes Hopes Against Hope

"People haven't fallen into line as fast as they should in conserving gasoline," said Mr. Ickes, following a remark that "it does no harm to hope—so I'm still hoping that voluntary curtailment will succeed."

This attitude was expressed just prior to his new appeal for voluntary curtailment. While addressing the appeal to oil companies as well as state officials, Mr. Ickes did not suggest how the companies should go about encouraging a 33% cut in gasoline consumption.

Meanwhile, there are bustling signs around OPACS offices indicating that Leon Henderson's civilian supply section may be getting ready to ration gasoline consumers. There have been reports that a showdown is near to see whether Mr. Ickes or Mr. Henderson will handle gasoline rationing.

Co-ordinator vs. OPACS

Mr. Ickes has not the staff like Henderson is building up—to handle the million and one details of administering rationing among consumers. But it is unlikely that Mr. Ickes would willingly turn over to Mr. Henderson's OPACS completely the job of prorating supplies of petroleum products in the East. That job ties into oil transportation facilities, stocks, storage, refinery production and other factors which Mr. Ickes is supposed to co-ordinate.

Logical move for Mr. Ickes, according to some observers, would be to reduce consumption by curtailing supplies at sources. One method might be to ask eastern oil companies to reduce deliveries to all accounts by a given percentage. This move might be regarded as too drastic for the present. However, Mr. Ickes' mention of a 33% curtailment being needed—when talk had been about a 20% cut—indicates the co-ordinator's view of situation's seriousness. Pooling of all East Coast supplies and allocating them to distributors and consumers looms as a possibility, even though many other measures are tried before such an expedient is adopted.

Weekly Reports Asked

Text of Deputy Co-ordinator Davies' telegram to eastern companies asking for weekly reports on gasoline sales, follows:

"For the purpose of measuring what effect requests for voluntary curtailment have on the consumption of gasoline in the so called East Coast refining district will you please report in one total figure for the week ending Friday the 18th of July and for each week ended Friday until further notice your net sales of motor fuel (gasoline) to dealers and through your own service stations to consumers. We do not want sales to jobbing resellers nor to large tank car buyers or commercial accounts since these do not entirely reflect reaction of private owners. Nor are we trying to develop figures indicating total district sales. What we do want to develop is the nearest possible measure of the trend of retail purchasing in this area and what effect requests for voluntary curtailment have on the use of gasoline. Obviously shipments from refineries and terminals to points of consumption will not suffice."

This message from the Deputy Oil Co-ordinator went to following oil companies and their representatives:

Robert H. Colley, Atlantic Refining, Philadelphia; James F. Auten, Barber Asphalt, Barber, N. J.; W. A. Jones, Cities Service and Arkansas Fuel, New York.

Continental, Ponca City, Okla.; J. Frank Drake, Gulf, Pittsburgh; R. E. Wilson, Pan American, New York; H. F. Sinclair, Sinclair Refining, New York; J. A. Brown, Socony-Vacuum, New York; W. S. Farish, Standard Oil (N. J.), New York; J. Howard Pew, Sun Oil, Philadelphia; W. S. S. Rodgers, Texaco, New York; W. J. Humphrey, Tide Water, New York.

Central Petroleum Corp., Baltimore, Md.; Raymond M. Parker, Jr., Hartol Products Corp., New York.

Republic, Pittsburgh; Richfield of New York, New York; R. G. A. van der Woude, Shell Union, New York; Standard Oil (Kentucky), Louisville, Ky.; Henry M. Dawes, Pure, Chicago.

Text of Ickes' Rationing Plea

Following is complete text of Oil Co-ordinator Ickes' statement on gasoline rationing on the East Coast:

By The Petroleum Co-ordinator for National Defense

Whereas the President of the United States on May 28, 1941 (6 F. R. 2760) designated me Petroleum Coordinator for National Defense and made it my responsibility and duty, as his representative:

1. To obtain currently from the States and their agencies, from the petroleum and allied industries, from the officers and agencies of your Department, and from other appropriate Federal departments and agencies information as to (a) the military and civilian needs for petroleum and petroleum products, (b) the factors affecting the continuous, ready availability of petroleum and petroleum products for those needs, and (c) any action proposed which will affect such availability of petroleum and petroleum products.
2. To make specific recommendations * * * * to insure the maintenance of a ready and adequate supply of petroleum and petroleum products.

and

Whereas, I find on the basis of information obtained from the appropriate government agencies and from the petroleum industry, that

1. The daily average shipment of petroleum and petroleum products from the Gulf Coast to the Atlantic Seaboard has declined substantially and that further declines are anticipated,
2. Existing supplementary transportation facilities can make up only a part of the deficiency and certain contemplated new transportation facilities will not be ready until 1942,
3. The trend of consumption of petroleum products in this area is upward,
4. As a result of these factors, the usual seasonal increase in stocks of petroleum and petroleum products to meet the heavy winter demand is well below the normal rate, and the stocks of industrial fuel oils, domestic heating oils, motor fuel and crude petroleum will not be adequate to meet essential demands this winter unless there is an immediate and drastic reduction in current consumption,

and

Whereas, I find that, as a result of the foregoing, the rationing of petroleum products may become necessary unless the consumption of motor fuel be voluntarily reduced by 33 1/3 per cent in the Atlantic Coast area,

Now, Therefore, I do hereby recommend that the use and consumption of motor fuel in the States of Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Maryland, Delaware, Virginia, North Carolina, South Carolina, Georgia and Florida, and the District of Columbia, immediately and until further notice be voluntarily curtailed by 33 1/3 per cent by all except those engaged in National Defense activities or services essential to health and safety.

(Sgd) Harold L. Ickes,
Petroleum Coordinator
For National Defense

Pennsylvania Passes Bill To Join Oil Compact

Special to NPN

HARRISBURG, Pa., July 18. —Membership of Pennsylvania in the Interstate Oil Compact Commission was approved yesterday by the legislature. If Pennsylvania's Gov. James signs the bill, New York will become a compact member automatically. House leaders of both parties urged adoption of the bill which passed by a 121 to 14 vote after remaining a week on the House calendar.

Davies Picks Oil Advisers

NPN News Bureau

WASHINGTON, July 21. — Judging by the activities they are now engaged in, staff of Deputy Oil Co-ordinator Davies will include following:

Transportation—Harry A. Gilbert, New York, Treasurer of Oil Transfer Corp.

Conservation—Everett Lee De Golyer, Dallas, Consulting Petroleum Geologist.

Production—Robert E. Allen, formerly of California but more recently chairman of Alberta Conservation Board, Calgary, Canada.

Refining—Wright Gary, New York, of M. W. Kellogg Co.

Marketing — Dr. John W. Frey, associate director of Interior Department's Petroleum Conservation Division and member of Petroleum Administrative Board under NIRA oil code.

Research—E. B. Swanson, associate director of Petroleum Conservation Division and member of PAB under oil code.

General Counsel—J. Howard Marshall, member of PAB under code but more recently on legal staff of Standard Oil Co. of California.

'Gas' Stocks Dip, Fuel Stocks Rise Along East Coast

NPN News Bureau

NEW YORK, July 22.—East Coast stocks of finished and unfinished gasoline totaled 21,932,000 bbls. on July 19, down 432,000 bbls. from previous week, according to American Petroleum Institute report today of U. S. refinery operations. Stocks on East Coast were 122,000 bbls. below comparable date in 1940.

Production of gasoline on the East Coast also declined, from 1,733,000 to 1,642,000 bbls. daily. Production, however, was 107,000 bbls. daily greater than during same period of previous year.

Stocks of both residual and distillate fuels on the East Coast showed increase over previous week, according to the A.P.I. report. Gas oil and distillate stocks stood at 11,511,000 bbls. on July 19, up 676,000 bbls. from July 12. Residual fuel stocks stood at 8,775,000 bbls., up 513,000 bbls. Detailed figures on East Coast operations below; for complete report, see statistical page.

GCRA Asks OPACS To Rescind 'Ceiling' on 80 Octane 'Gas'

By NPN Staff Writer

HOUSTON, July 22. — Independent Gulf Coast refiners, representing 73% of independent refining capacity in the area today called upon Price Administrator Henderson to rescind his request of July 16 for a top price of 6c per gal. on minimum 80 octane ('39 Research) gasoline at the Gulf.

Independent refiners of Texas, Louisiana and Alabama are suffering "tremendous hardship" as result of the order, the wire signed by Gulf Coast Refiners Assn. stated, adding that the ceiling not only is harmful to the independents but "reacts to the advantage of competitors."

Ask Meeting

While telegram asks immediate rescission of the ceiling, it also suggests that Office of Price Administration and Civilian Supply call a meeting within 10 days at which Gulf Coast independent refiners would present data on (1) cost of crude, blending materials and anti-knock agents; (2) transportation; (3) price of products other than gasoline; (4) competitive factors; (5) rising maintenance and labor costs; (6) loss of export markets of independents; (7) negligible effect of prices obtained by independents on retail prices; and (8) differentials in volume sales and specifications.

Wire says that prices of the past year were far below cost and represent unfair basis of comparisons with present prices.

Today's wire is outcome of meeting yesterday called by Gulf Coast Refiners Assn. at which 17 independent refiners were represented. Session was "executive", but reports indicate refining costs and their relation to the 6c top price suggested by Mr. Henderson were discussed thoroughly. Most refiners, it was said, indicated the 6c price would prohibit operation of their plants unless substantial increases in prices for other products were forthcoming. Many refiners indicated they were hopeful OPACS will rescind the ceiling order as requested.

Discuss Shutdown

Others, however, were reported less hopeful and some discussion of possible refinery shutdowns was said to have taken place. It was belief of some that refiners had no legal recourse under present crude oil purchasing contracts. It was pointed out, according to reports, that OPACS ceiling price did not represent an actual order and if refiners were forced to shut down their plants, they must continue taking crude.

Text of G.C.R.A. wire to Mr. Henderson follows:

"Independent refiners of Texas, Louisiana and Alabama are suffering tremendous hardship because of your telegram of July 16. Sincerely believe your action must have been based upon erroneous information given you from some source or failure to take into account factors essential to fair basis.

"Other independent refiners, as well as 11 members of this association, representing 73% of independent refining capacity on Gulf Coast, in meeting here July 21, unanimously resolved to urge upon you immediate rescinding of your telegram pending hearing to give you the facts. Urgently request immediate hearing, within 10 days at most.

See 'Harmful' Effect

"Effect of your telegram is particularly harmful to independent refiners and we sincerely believe your action will not assure desired result. Ceiling on refined products harmful only to independents but reacts to advantage of competitors. Association and independent refiners

Barometer of East Coast Refinery Operations

East Coast Refinery Runs and Stocks

(From API current weekly figures, representing 100% of refining capacity. Nearest comparable week in previous year is used. Figures in thousands of bbls.)

Week Ended	Daily Avg. Crude Runs to Stills		Gaso. Prod. at Refineries		Stocks Finished & Unfinished Gaso.		Stocks Gas Oil & Distillate		Stocks Residual Fuel Oil	
	1941	1940	1941	1940	1941	1940	1941	1940	1941	1940
May 3	611	535	1,651	1,469	20,787	23,615	8,004	5,975	8,717	7,948
May 10	593	576	1,610	1,270	20,810	23,429	8,515	6,351	8,562	8,771
May 17	570	590	1,628	1,333	20,587	23,487	8,879	6,598	8,156	8,752
May 24	603	573	1,584	1,321	21,157	23,618	9,122	7,218	8,467	8,115
May 31	574	585	1,635	1,463	21,657	23,603	9,060	7,615	8,012	8,646
June 7	600	577	1,708	1,411	21,965	23,588	9,548	8,036	8,578	8,953
June 14	558	590	1,603	1,456	21,705	23,357	9,405	8,745	8,109	8,551
June 21	587	606	1,487	1,669	22,620	23,206	9,725	9,526	8,109	8,844
June 28	600	561	1,645	1,492	22,888	23,043	9,421	10,401	8,240	8,842
July 5	602	532	1,672	1,382	21,698	22,286	10,035	10,521	7,911	9,654
July 12	644	560	1,733	1,439	22,364	22,671	10,835	11,775	8,262	10,270
July 19	570	558	1,642	1,535	21,932	22,054	11,511	12,460	8,775	10,365

Appalachian District Refinery Runs and Stocks

(From API current weekly figures, representing 91.0% of refining capacity; includes eastern half of Ohio. Nearest comparable week in previous year is used. Figures in thousands of bbls.)

Week Ended	Daily Avg. Crude Runs to Stills		Gaso. Prod. at Refineries		Stocks Finished & Unfinished Gaso.		Stocks Gas Oil & Distillate		Stocks Residual Fuel Oil	
	1941	1940	1941	1940	1941	1940	1941	1940	1941	1940
May 3	134	118	431	387	3,151	4,140	361	397	489	615
May 10	130	121	427	411	2,996	4,084	341	384	486	643
May 17	127	124	466	432	2,852	4,022	337	377	476	654
May 24	123	118	466	374	2,957	3,960	379	365	470	661
May 31	120	115	431	401	3,082	3,862	356	342	432	644
June 7	131	119	422	430	3,047	3,812	353	335	420	633
June 14	130	123	410	464	3,024	3,688	369	343	419	598
June 21	134	116	490	442	2,924	3,672	356	336	419	561
June 28	141	123	511	401	2,993	3,600	418	333	470	515
July 5	132	111	446	407	3,033	3,451	367	351	501	480
July 12	149	117	486	407	3,114	3,475	422	331	517	488
July 19	137	119	507	427	3,003	3,586	425	333	536	490

will gladly give you facts and point out factors which should be taken into account, such as (1) cost of crude, blending materials, and anti-knock agents; (2) transportation; (3) prices of products other than gasoline; (4) competitive factors; (5) rising maintenance and labor costs; (6) loss of export markets of independents; (7) negligible effect of prices obtained by independents on retail prices; and (8) differentials in volume sales and specifications. Ruinous prices of last year, far below cost, are extremely unfair basis of comparison present prices."

Wire was also dispatched to Oil Co-ordinator Ickes urging that headquarters of District 3 be retained in Houston. Efforts have been made to remove regional offices to Dallas.

Gulf Cargo Market Reaches Stalemate Following 'Freeze'

NPN News Bureau

NEW YORK, July 22—Trading in the open cargo market at the Gulf has been at a standstill since July 17, date of OPACS' request to peg min. 80 oct. gasoline (1939 research) at 6c and freeze present differentials on lower grades, according to reports here and from the Southwest.

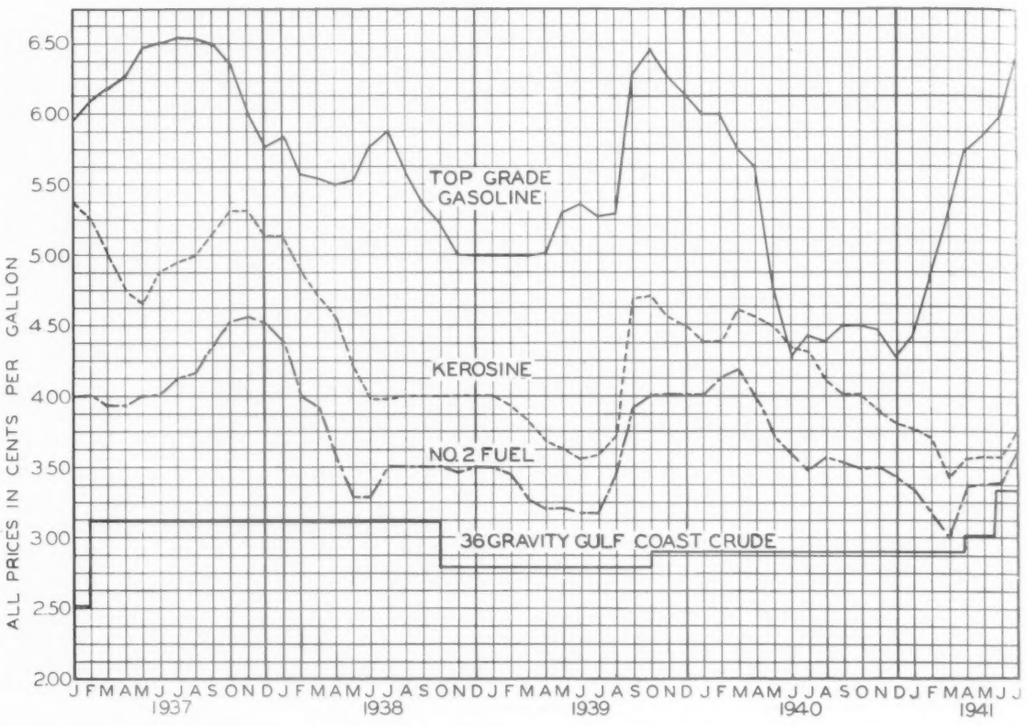
Several Gulf refiners indicated their intention of complying with the OPACS request, while others were openly defiant, stating they would sell whether or not they had OPACS' approval.

On July 16, when the OPACS telegram apparently was still in the making, 1 Gulf refiner closed a 75,000-bbl. cargo of Minimum 80 octane ('39 research) gasoline at 6.25c, which was 0.125c above the last previously reported sale price of 6.125c. This refiner also said he had expected to close two 80,000-bbl. cargoes July 17 at 6.25c, but that negotiations had been held up temporarily. His prospective buyers had notified him that they would not pay more than 6c, in view of the OPACS request, while he, on the other hand, would not accept less than 6.25c.

"Henderson or no Henderson, I won't sell 80 octane at 6.25c," another Gulf refiner said July 27. On July 14, this refiner had reported selling a cargo at 6.125c.

"Henderson hasn't the authority to put a ceiling on prices—that has to come from Congress," a large refiner-buyer said. "This action has gummed up all business at the Gulf. Anybody who was interested in buying is holding off to see what develops. No one reports lowering his quotations," he added.

Why Refiners Balk 'Freeze' Request


ALL PRICES IN CENTS PER GALLON
6.50
6.00
5.50
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TOP GRADE GASOLINE
KEROSINE
NO. 2 FUEL
36 GRAVITY GULF COAST CRUDE
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1940
1941

Since the beginning of 1937, *both crude and refined products prices on the Gulf Coast have had their ups and downs. Today, however, the price of crude is* 32.1% *higher than it was on Jan.* 1, 1937, *while the price of top-grade gasoline is up only* 7.2%. *Besides, prices today of* 2 *other principal refined products—kerosine and No.* 2 *fuel oil—are* 30.3% *and* 10%, *respectively, under prices at the start of* 1937.

Crude price in above graph, shown in cents per gallon, is average of prices for 36-36.9 *gravity Texas Gulf Coast, Refugio and Mirando crudes.*

"Top-grade gasoline" is: (ASTM octane rating unless otherwise noted) Jan., 1937, *to Jan.,* 1938—65 *oct. & above; Feb.,* 1938, *to April,* 1939—68-70 *oct.; May,* 1939, *to Aug.,* 1939—70 *oct.; Sept.,* 1939, *to Aug.,* 1940—72-74 *oct.; Sept.,* 1940, *to date—minimum* 80 *oct.* ('39 *Research*).

Text of OPACS Statement On 'Freezing' Gulf Prices

NPN News Bureau

WASHINGTON, July 19. — Following is complete text of press release by Office of Price Administration and Civilian Supply regarding move to put a "ceiling" on Gulf Coast gasoline prices:

"All petroleum refiners in the Gulf Coast area were today requested by Leon Henderson, Administrator, Office of Price Administration and Civilian Supply, to maintain a base price of 6c for Gulf Coast gasoline.

"It was pointed out that the quoted low of the market for this gasoline has gone from 3.625c per gallon on the first of the year to 6c per gallon June 19, 1941, when the oil industry was requested to maintain consumer prices at present levels, except after prior consultation with OPACS. Several cargoes have recently been reported moving at prices ranging from 6.25 to 6.5c.

Request is 'Necessary'

"OPACS officials indicated that there is now an extraordinary demand for gasoline on the Gulf and that the request to maintain the prevailing market was deemed necessary in order to control speculative buying. The action follows several conferences with large and small refiners at which substantial agreement was reached as to the desirability of the action taken.

"OPACS officials indicated that prompt consideration will be given to any requests by small refiners for permission to effect transactions at higher prices in order to avoid unusual hardships consequent upon the industry readjustments which may be necessary by reason of the shortage of tankers to carry petroleum products from the Gulf to the East Coast.

"It was also indicated that OPACS intends to make a detailed study of the costs of refinery operation in the Gulf area. Information necessary to enable the study to be made will be assembled in cooperation with the Office of the Petroleum Coordinator for National Defense, which was consulted in connection with today's action.

Response 'Gratifying'

"Mr. Henderson also announced that his request to the oil industry for advance notice of price advances had met with gratifying response. Several large marketers on the eastern seaboard, including Standard Oil of New Jersey and the Socony-Vacuum Oil Company have withheld proposed advances of the service station price of gasoline after consultation with OPACS. These advances will be reconsidered when it is possible to evaluate the extent to which increases in the cost of transportation from the producing areas to the East Coast will be relieved by plans now being worked out by the Office of the Petroleum Coordinator for National Defense."

THE Editor's PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and publisher, Penton Building, Cleveland, O.

OPACS Price Reduction Order

Will Kill Competition and Increase East Coast Shortage

THE oil industry is now getting the first real dose in its history of government control of oil prices.

And it is not so pleasant.

Quite the contrary, some groups are complaining, and we believe with great justice, of severe restriction of margins if not even being forced into heavy losses.

Several weeks ago, OPACS Chief Leon Henderson called on all oil companies, all over the country, to hold all prices "as is". He also specifically asked that no advances be made on the East Coast even though they would be justified by higher transportation costs due to the government diverting to its own use and to England, the low cost tankers that of late years have been supplying the East Coast with nearly all of its crude and oil products.

Last week, OPACS Henderson ordered Gulf Coast refiners to keep prices down and not to let 80 Oct. gasoline go above 6c a gal. even though sales had recently been made above that figure.

This last order was a severe blow to the treasuries of the Independent Gulf Coast refiners which have had a particularly hard time financially these last several years. Their prices declined during 1940—from an average of slightly over 6c to slightly over 4c for top-grade gasoline—even though crude prices remained firm. These refiners were victims of the decline in foreign sales due to the war and they also were the victims of the increase in tanker rates resulting from war demands. This spring, these refiners were faced with a 20c advance in crude. Their prices were just getting back toward a fair level when this government order to hold at what the Independent refiners say is an unprofitable level, came out of a clear sky.

Also, since OPACS took charge of petroleum prices, Independent jobbers of the Mid-West have been complaining to Washington of a narrowing margin due to Mid-Continent refinery prices advancing with no similar advance in tank wagon and retail prices. With the continuing firming of refinery prices due to increased demand taking up the slack in prices, it should not be long before every marketing department and oil jobber in the country will be caught in this squeeze due to governmental efforts to freeze prices.

Fundamental NEW DEAL Policies Demand Higher Oil Prices

NPN admits that probably the only thing possible in a war of great magnitude is some control of prices. Obviously, if this is not done directly by government it will have to be done under government supervision. In the last war the oil industry pretty much controlled its own prices under government observation. Those were good prices which found new oil fields, built new refineries and kept both the Allies and the munition workers in this country fully supplied with the necessary petroleum products.

But the New Dealers might at least be fair and intelligent about their approach today to industry prices, including the oil industry.

First, the New Dealers should admit that they have taken the lid off wages for labor, have shortened hours and seemingly, are making no attempt to restrain the increasing demands of labor leaders. No business man has any idea where wage increases will vault to.

Second, the New Dealers should admit that they also have taken the top off all farm product prices and, in fact, are doing their best to boost farm prices still more. Where are these price advances to end?

Every oil man, in every branch of the industry, is already finding his costs mounting due to these 2 fundamental factors. But in addition to these, comes the dislocation of the industry's highly efficient transportation system due to no fault whatsoever of the industry, but due, at least in part, to the failure of the government to do a better job of anticipating its own and the war's needs.

The New Deal is taking pot shots at industry prices. That is the way it did with the automobile industry and that is the way it is doing with the oil industry. In the automobile industry the Chrysler company stood pat and showed that it had been doing all and more than the government asked in war work but in addition had absorbed more of its new

Let's Have the Facts, Please

The last detailed statement of facts in regard to the expected East Coast oil shortage was made six weeks ago by the API fact-finding committee.

Today, the Administration at Washington asks consumers to restrict their use of petroleum products, and asks oil companies to "freeze" business and customers;

Today, the Administration warns all of a really serious shortage on the East Coast with echoes back inland,

But the Oil Co-ordinator does not give the public or oil industry any of the facts on which, presumably, these orders and recommendations are based.

We submit that all in the oil industry, and the public, too, are entitled to just as detailed figures as the Oil Co-ordinator has.

Further,—

OPACS Henderson is asking oil companies to keep down prices and not even to recognize natural market advances, this to the great loss of many refiners and a large number of jobbers.

Again, the entire industry is entitled to the facts, if any, on which these government "requests" are made.

Free Americans are entitled to the facts.

Let us have them and now, please.

costs than it had passed on to the new car buyers.

The government, through OPACS, is making the same unfair and unintelligent approach to the oil industry problems. The government is picking out a price here and there and demanding that it be held or reduced regardless of advancing costs, regardless of the industry's recent poor price history and regardless of the low prices on other products.

OPACS Price Thinking Assumes All Oil Companies Are "Big" and "Rich"

THE New Deal is also approaching oil industry prices seemingly on the assumption that all oil companies are making great profits or have accumulated sufficient profits and carry plenty of cash so that, if there is a "slight hardship" in the New Deal's request to hold prices, no "real harm" is done. Yet every oil man, and every other business man too, knows that not all oil companies are in a highly profitable condition and that not all have plenty of cash to carry them through any New Deal experiments so that there will be a company left for the stockholders to own. Jobbers and small refiners, including particularly the Gulf Coast Independents, come in this last class of small resources.

The New Deal in all of its anti-industry operations seems to think of industry as a collection of "big" companies—"monopolies" is the favorite word. Little thought, if any, is given the "small business man" except when he may be needed as witnesses in a "monopoly" investigation. When "small business" and the desirability of preserving it for competitive reasons has been mentioned, the New Dealer replies that society cannot protect the inefficient.

It would seem that OPACS is applying this anti-small business philosophy to its consideration of oil industry prices. True, OPACS says if you are hurt come and see us, but OPACS offers no suggestion of reparation for damage done.

The major oil companies obviously are going to lean over backward to accommodate OPACS because their very existence is still in jeopardy under the "mother hubbard" anti-trust suit, possible settlement of which is still under negotiation and still, to say the least, evidently some ways off.

Prices that will safely protect the existence of every reasonably efficient unit in the oil industry will work no hardship on anyone but will, in the long run, be of great service to the public in maintaining a large number of businesses that give employment and in providing a large volume of competition to the large companies.

If the larger oil companies, by reason of their size or greater efficiency, make any of the "unconscionable profits" that business critics love to orate about, the excess profits tax will absorb those profits for the government which today needs all the taxes it can collect. Furthermore, these taxes will not be any discrimination against the users of petroleum products because, in one way or another, they will have to pay the governmental expense bill anyway.

Low East Coast Oil Prices Will INCREASE the Shortage

IN TRYING to hold down, especially to unfairly low and even unprofitable levels, East Coast prices, is not the administration at Washington contributing greatly to the shortage that it expects there?

Will the consumers of both gasoline and heating oils in the East thank these New Dealers for a theoretical saving of a fraction of a cent or of a cent or 2 on a few gallons of petroleum products they DID NOT GET?

When these Easterners have to put up their cars for a few days each week, or live in "cold" homes and offices, as the Administration seems to anticipate, will these uncomfortable consumers feel very appreciative for the few cents or few dollars they may have been "saved"?

Good prices, and we mean even highly profitable prices to all, will generally go a long way toward helping to overcome any shortage in a product. The history of the oil industry is full of evidence of this, even though the industry has never suffered a real shortage before. But when crude or refinery stocks get low, prices rise and invariably the industry has a grand rush to drill which brings in new fields and new refineries. Good prices in a marketing area have always brought in floods of new products and many new competitors.

Oil marketing companies on the East Coast right now should be permitted to raise their prices, even encouraged to raise them. The increase should not be just enough to cover any bare advance in costs, but generous enough to make the East Coast a quite attractive market.

The PRESSURE of higher prices in this nearby territory, should be put on the Pennsylvania refiners, just over the mountain range, to see if they cannot find more crude oil and increase their runs still more, in order to ship more products to the East Coast territory only a few miles away.

Then these East Coast prices should be high enough to coax the refiners in Ohio, Kentucky, Indiana, Illinois and Michigan, to go out and search and fight for more crude oil in order to make products to sell in this better market.

As products from these Mid-Western refineries flow east, the resulting higher prices will draw more products north and east for a few miles further from the Mid-Continent and Louisiana-Arkansas and even Texas.

How will these products move?

They will move by any old way that will get them to the higher prices; by perhaps short pipelines, by tank cars, by trucks and by river and lake barges. Each refining district will be seeking to move only a comparatively few miles into ITS ADJOINING TERRITORY to the east, only a few of the total miles from Texas to the East Coast. There is additional refining capacity all along this line of march that can be brought into greater use. It is far simpler to speed up each of a few hundred refineries a little bit than to construct brand new another large refinery or big pipeline.

What the Washington Administration disregards is the fact that good and profitable prices on the East Coast will attract the ingenuity and inventiveness and every existing facility of every one in the oil business to reach that profitable market.

The Administration is counting on a few "grand strokes," like a few more tankers, an extra pipeline or two, and a greater use of tank cars to turn the trick. But even with these "grand strokes" the Administration says it probably will be necessary to ration petroleum products. And even with them, every one knows that there will have to be higher prices to take care of the increased costs.

Householders Prefer HEAT To Pennies they do NOT Save

IT IS gasoline and heating oil that the East Coast car owners and home owners want, and not the saving of a few pennies or dollars.

Instead of holding down prices to try and save a few theoretical pennies that the consumers do not want to save, and still be cold, the Administration should be letting prices bulge upward, with a good healthy bulge, so as to attract the ingenuity and resourcefulness of every man in the oil industry to try and get some of HIS products into that East Coast market. And the time to get these prices up is NOW so as to give every oil man a chance to figure on what he can do in that East Coast territory.

As to those "unconscionable profits," let the excess profits take them. By the time the Administration gets through with the 1941 tax laws it will be practically impossible to keep any kind of profits, anyway. Besides, the higher and more "profitable" prices will permit the oil industry to give greater support to 2 of the New Deal's fundamental policies, more pay to labor and still higher prices to the farmer.

By holding down prices to unprofitable levels, or until they become unprofitable, and by forewarning every one that the East Coast is to be an unprofitable territory, the Administration is simply increasing and insuring the shortage of East Coast supplies.

If the present price policy is not reversed, the car owners of the East Coast this winter, as they walk to work and sit blanketed in their cold homes, can thank OPACS largely for their plight.

WITH THE ASSOCIATIONS

'Favoritism' in Committee Selections Charged by Illinois Marketers Group

Special to NPN

SPRINGFIELD, Ill., July 21.—Partiality in Oil Co-ordinator Ickes' selection of committeemen for District 2 under the defense advisory set-up is charged by the Illinois Petroleum Marketers Assn.

In a letter to the oil co-ordinator, signed by G. A. Primm, secretary, the association asserted 2 independent jobber-marketers were appointed to District 2 marketing committee, against 7 "major-integrated" and 1 consumer members. This is "by no means a fair and impartial representation," the association charged.

If additional members are to be appointed to committees, the association asked Mr. Ickes that selection be made from ranks of independent jobbers.

Urges Jobber Fight

At the same time, the I.P.M.A. urged its members to write the oil co-ordinator in support of its complaint. In its message to its members, the association stated: "Most certainly independent jobbers cannot sit back and accept passively the action of Mr. Ickes in setting up the machinery he has as fair and equitable, and Mr. Ickes might as well understand in the beginning that the independent branch of the industry is going to fight for its rights and will not be pushed in the background at the instigation of major companies."

'Squeeze Play' Charged

The message charged that "the grand squeeze play has begun," and that "Independent oil jobbers are already experiencing a stiffening of the tank car market without a corresponding increase in the retail price. Other tactics of a similar nature, under the cloak of national defense, will follow, which practices if so discriminating as Mr. Ickes favoritism to major companies on regional committee appointments are permitted to go unchallenged, independent jobbers are going to soon find themselves pushed to the back of the picture without any recourse to protect their interests."

Strippers Schedule Meeting For October 20

NPN News Bureau

TULSA, July 21.—Annual meeting of the National Stripper Well Assn. will be held in Tulsa, Oct. 20, according to announcement by President Charles P. McGaha of Wichita Falls, Tex.

While this date coincides with the opening day of the Independent Petroleum Assn. of America's annual meeting, it does not conflict since the I. P. A. A. will devote its first day to committee meetings only.

H. B. Fell, Ardmore, Okla., is executive vice-president of the stripper well group. Other vice presidents are: Guy T. Berry, Independence, Kans.; Richard Fenton, Los Angeles; Wirt Franklin, Ardmore; A. H. Ledbeter, Mount Pleasant, Mich.; Harry Leonard, Roswell, N. M.; Lee Mulvihill, Robinson, Ill.; N. W. Shiarella, Owensboro, Ky. and Ralph T. Zook, Bradford, Pa. Howard J. Whitehill, Tulsa is secretary.

N.A.G.T.C. Opposes Hike In Federal Gasoline Tax

NPN News Bureau

NEW YORK, July 19.—Southeastern states of the North American Gasoline Tax Conference meeting in Atlanta, Ga., on July 12, unanimously adopted a resolution protesting any increase in federal gasoline tax and sent a copy of the resolution to each member of the House Ways and Means Committee, the Senate Finance Committee, and to all members of congress from states represented at the conference.

Texas Rules Prizes As Station Lottery

Special to NPN

AUSTIN, July 19.—Giving away prizes to gasoline customers comes under the head of lottery and as such is forbidden by Texas law, Attorney General Gerald Mann ruled this week.

Attorney General's opinion did not list name of the offender, but ruling involved a refinery which distributed stamp booklets to its service stations. Booklets were filled out by customers with stamps received with every 10c purchase. When the stamp book was full, the customer turned it in and it was sent to the refinery, where the number was checked against a master schedule. Holder of the booklet got some sort of a prize ranging from 2 quarts of oil to $20. Element of chance was involved, the Attorney General ruled, since 2 persons filling out their booklets would get different prizes—to the luckiest holder the biggest prize.

Doering Presented B.O.D.A. Golf Trophy

Grinning, Frank E. Spencer, Chicago, Spencer Petroleum Co. and president of the Burning Oil Distributors Assn., presents the B.O.D.A. golf trophy to Art Doering, also Spencer Petroleum Co., following the association's annual golf tournament late last month at the Tam O'Shanter Country Club. Others in photo, left to right, are: Earl Whatley, Socony-Vacuum Oil Co., Inc., Mel Keim, Apex Motor Fuel Co.; and F. B. Caldwell, B.O.D.A.'s secretary

Oil, Tanker Pool Planned As Aid to Latin Republics

(*Continued from page* 13)

Ickes said proposals for transfer of tankers, or reallocation or diversion, is a "matter of vital military information," adding that he wouldn't comment on any discussions under way.

U. S. Maritime Commission spokesman late last week told NPN that British had obtained 35 or 40 Norwegian-flag tankers. Many of these Norwegian tankers are understand to be under charter to American oil companies and in the South American trade.

Text of Davies Telegram

Text of telegram sent by the deputy co-ordinator follows:

"Secretary Ickes as Petroleum Co-ordinator today has issued an official recommendation in which he asks for the voluntary co-operation by the industry and by consumers of motor fuel in the Atlantic Coast states to reduce immediately their consumption by one-third in order to avoid, if possible, rationing of petroleum products.

"This recommendation, as you know, is made necessary by the present deficiency in tanker transportation which affects not only the Atlantic seaboard but also all regions in the western hemisphere which depend in whole or partly upon ocean transportation for their petroleum supply. The deficiency will affect particularly those countries of the western hemisphere, Argentina, Brazil, Uruguay and Chile, which can be supplied from present outside sources only by long tanker voyages.

Asks Co-operation

"In the necessary curtailment of petroleum shipments to these countries, arrangements should be completed by the American oil companies whereby the restriction will be shared as equally as possible and to this end it is recommended that a plan be devised, in co-operation with the appropriate other American republics, for distributing the available supply of petroleum and tankers, including those of the United States, non-American powers, and other American nations which are at present operating in these services, to fill by the best means possible the requirements of the other American republics regardless of whether these needs previously have been supplied by American oil companies or by their competitors.

"It would be appreciated, accordingly, if you would have a representative of your company meet with me and others in my office next Wednesday, July 23, at 2 o'clock to formulate necessary plans."

Press-time Bulletins

(*Continued from page* 13)

recommendations on a number of them, while certain others were not discussed very fully, he said. When asked to be more specific, he said, "it is all tied in with marketing problems along the East Coast."

District 1 refining committee also held its initial meeting here today, at 26 Broadway. No details were available.

Transportation committee is scheduled to hold its first meeting here July 24 while the production committee will meet July 25 in Pittsburgh, probably in the Gulf Building.

* * *

MORE APPOINTMENTS

WASHINGTON, July 22. — Oil Co-ordinator's office probably will appoint more independent jobbers to advisory committees, along with setting up subcommittees of dealers in various metropolitan areas, as needed.

D.J. Conducts Quiz Of Major Companies

NPN News Bureau

NEW YORK, July 19. — Six questionnaires sent recently by Department of Justice to major oil companies sought the following information, it was learned here this week:

1. Form of contracts for domestic fuel oil.
2. Advertising expenditures; amount and in what mediums.
3. Exchange of motor fuel for 1940 and first 6 months of 1941; also information about inter-refinery purchases.
4. Motor fuel tanks and pumps under loan or lease. Total number of pumps and tanks at owned and leased stations.
5. Number of retail stations owned in fee and number leased.
6. Relations between suppliers and their tank car customers. This last questionnaire did not go to all who received other 5 questionnaires, according to reports.

'Squeeze' Details Go to Henderson

NPN News Bureau

TULSA, July 21.—In support of its complaint that recent advances in tank car gasoline prices in the Mid-West were "absolutely uncalled for," Missouri Independent Oil Jobbers Assn. has wired Price Administrator Henderson that under the present average jobber margin of less than 2c, jobbers "cannot possibly operate."

The jobber margin has been whittled down, according to the Missourians by increases in tank car prices without comparative advances in tank wagon and service station price structures.

The M.I.O.J.A. wire reads as follows:

Text of M.I.O.J.A. Wire

"Retel eleventh: We complain of the fact that gasoline prices to our jobbers increased 1.625c since March, while we have only had two 0.5c advances in tank wagon. This does not take into consideration the fact that a good many of our jobbers operate in territories where markets are sub-normal from 0.5 to 2c per gal. Most of our jobbers' contracts are based on prices published in Chicago Journal of Commerce and their costs are increased every time there is an increase in that publication. All our jobbers buy in tank cars from Group 3. In some cases, our jobbers buy in transports in which cases their transport costs are about the same as railroad rates. Their freight rates run from 1 to 3c a gal., depending where they are located in the state. The tank wagon prices of course are lower at points where freight rates are lower making the net back to the jobber about the same. The average jobber margin between tank car cost plus freight and taxes and his dealer tank wagon price is less than 2c a gal. under which margin they cannot possibly operate. If you desire additional specific information we shall be glad to make a survey and supply you with the compiled data."

Oil Equipment Gets Tentative Priority

NPN News Bureau

WASHINGTON, July 21—Oil industry has been accorded a tentative priority rating of A-10 on materials and equipment required for maintenance and repair of existing facilities, according to Office of Production Management spokesmen, who state that a final decision on this may be expected within the next 2 weeks.

A-10 rating is described at OPM as the lowest military priority rating, and while an official explanation of what this would mean to the oil industry has not been forthcoming, it is understood that a rating of A-10 is ahead of all civilian priorities or preferences.

NPN's Washington Directory Of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry:

Oil Co-ordinator, Harold L. Ickes, Interior Department (New Building), 18th and C Streets, N. W.

Deputy Oil Co-ordinator, Ralph K. Davies, new Interior Building, Room 6654.

Oil Co-ordinator's Staff, 7th Floor, new Interior Building:
General Counsel, J. Howard Marshall, Room 6653.
Transportation Adviser, Harry A. Gilbert, Room 6622.
Production Adviser, Robert E. Allen, Room 6647.
Conservation Adviser, Everett Lee De Golyer, Room 6639.
Refining Adviser, Wright Gary, Room 6653.
Marketing Adviser, Dr. John W. Frey, Room 7387.
Research Director, E. B. Swanson, Room 7317.

Petroleum Conservation Division, George W. Holland, director, Interior Department (new building), Room 7315.

Oil Section, Office of Production Management, New Social Security Building, Room 4062. Dr. R. E. Wilson, petroleum consultant for OPM; Staff: P. R. Robinson, C. C. Monrad, and Dr. Walter Whitman.

Office of Price Administration and Civilian Supply, 2501 Q St., N. W. **Fuel Price Section,** Room 320, Quinn Shaughnessy, in charge; J. Elmer Thomas, assistant; Joseph Gordon, Robert Moore and Allan Hand, consultants.

U. S. Maritime Commission, M. W. Bowen, tankers, Commerce Department, Room 4319.

Congressional Oil Investigating Committee, Rep. Wm. P. Cole, Jr., Chairman, New House Office Building, Room 1535.

District Advisory Group 3 Meets To Formulate Program

By NPN Staff Writer

HOUSTON, July 21. — With organization work partially completed, production committee, appointed to advise with Oil-Co-ordinator Ickes in District 3, is marking time awaiting further instructions from Washington and completion of organization work by other committees in district.

Co-ordination of general committee and those on refining, marketing, transportation and production is expected at meeting called for Houston July 23.

While initial meeting of production committee here today was "executive", Committee Chairman George A. Hill, Jr., president Houston Oil Co. of Texas, announced appointment of J. S. Russell of Houston as committee secretary. Russell is member of committee and vice-president Gulf Oil Corp.

Headquarters at Houston

General offices of Production Committee in District No. 3 will be maintained in Houston, it was learned, although nothing was revealed regarding staff personnel. This office would act as focal point for states of Alabama, Mississippi, Louisiana, Arkansas, Texas and New Mexico.

Announcement that production committee would headquarter in Houston is believed to represent another effort on part of some oilmen to continue to use this Texas city as headquarters for all area committees. This apparently is desire of Co-ordinator's office. But efforts have been made recently to make Dallas division point for the areas.

Duties of 5 committees in each of 5 regional districts into which U. S.'s oil activities are divided are still unknown, according reports here today. Outside of fact committees will be expected to advise with and make recommendations to Oil Co-ordinator, committee members are at loss to know what is expected of them.

No Drastic Curb

At June 19 meeting of almost 1000 oil men with Mr. Ickes at Washington, the Co-ordinator hinted that if an emergency dictated, his department might be called on to curb construction of new service-stations, allocate oil production among refiners and then tell them how oil should be refined and into what trade channels it should be shipped. When this was called to their attention some members said they believed such drastic regulation would be unnecessary.

Ickes Picks Headquarters For Regional Committees

NPN News Bureau

WASHINGTON, July 19. — Headquarters for district advisory committees have been picked by Oil Co-ordinator Ickes, as follows: District 1 (East), New York City; District 2 (Mid-West), Chicago; District 3 (Gulf Coast), Houston; District 4 (Rocky Mountains), Denver; and District 5 (Pacific Coast), Los Angeles.

District 2 Meeting Called for July 24

NPN News Bureau

TULSA, July 21—First meeting of the newly-appointed oil advisory committees for District No. 2 has been called for July 24 at Chicago, according to announcement by Frank Phillips of Bartlesville, board chairman of Phillips Petroleum Co. and general committee chairman for the district.

The call went out for the entire personnel of the general committee and those for production, refining, transportation and marketing. District No. 2 comprises the states of North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Wisconsin, Iowa, Michigan, Missouri, Kentucky, Tennessee, Illinois, Indiana and Ohio.

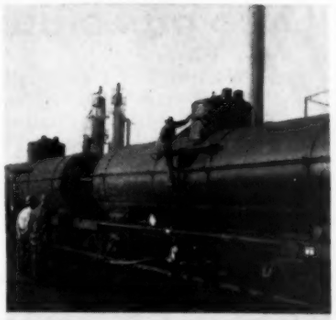
Otto Donnell, Findlay, O., Ohio Oil Co., is chairman of the production committee; Paul G. Blazer, Ashland, Ky., Ashland Oil & Refining Co., of the refining committee; E. G. Seubert, Chicago, Indiana Standard, of transportation and B. L. Majewski, Chicago, Deep Rock Oil Corp., of marketing.

Meeting was called by Mr. Phillips at request of the Oil Coordinator's office. While the meeting will be given over mostly to organization, other business to be considered was not announced pending receipt of further instruction from Washington.

The first committee meeting will probably be "executive," according to the chairman, although announcement of action taken will be made, according to Mr. Phillips.

"There'll be nothing secret about our activities," Mr. Phillips added.

Crude Train Arrives



Twenty-five car train of Texas crude, first major movement overland to East Coast in 20 years, arrived July 10 at Jersey Standard's Bayway refinery, Linden, N. J. Train left Lima, Ohio, terminus of Indiana pipeline, on July 7. Jersey company is receiving 25 cars per day at present; will receive 50 cars daily of Mid-Continent, Louisiana and Texas crudes after Aug. 15. Photo above is of first trainload as it entered plant behind a yard engine

Texas Crude Up

TULSA, July 21.—Phillips Petroleum Co. has announced, retroactive to July 9, a 3c per bbl. increase in its posted prices for Panhandle, Tex. crude. The new schedule, with its top of $1.15 for 40 gravity and above, is similar to postings of Humble Oil & Refining Co., The Texas Co., Sinclair-Prairie Oil Marketing Co. and other large buyers in the field.

* * *

Canadian Gasoline

TORONTO, July 19.—A 1c per gal. advance, effective July 16, in its tank wagon price for regular-grade gasoline throughout Canada was announced this week by Imperial Oil Ltd. Part of Canadian government's program for conserving gasoline is is 1c hike in white products.

* * *

Eastern Seaboard Buys Danish Tanker Cargo

JACKSONVILLE, Fla., July 19.—Eastern Seaboard Petroleum Co., Inc., Jacksonville, was only bidder today on a cargo of gas oil, fuel oil and grease aboard the interned Danish tanker, "Caroline Maersk." Bid was $117,478, the minimum set by federal government.

New York Appoints Conservator of Oil

NPN News Bureau

NEW YORK, July 21.—Carroll E. Mealey, New York State Motor Vehicle Commissioner, today was named Petroleum Products Conservator by Gov. Lehman in compliance with recent telegram sent by Oil Co-ordinator Ickes to governors of the 16 East Coast states directly faced with threats of oil shortage. Co-ordinator asked them to lead voluntary efforts to cut down seaboard oil consumption.

Mealey will work closely with the office of the oil co-ordinator to effect conservation and reduce petroleum consumption in New York State.

The new Conservator announced that he first intended to contact oil companies, automobile clubs and industry organizations throughout his and other states to learn what programs they were considering or had so far put into action. A policy of conserving gas and oil by voluntary co-operation on the part of motorists and other oil consumers is what is planned, Mealey said.

Some trade reports stated that bus and taxicab operators will not be able to cut down very substantially on gasoline consumption because of the heightened transportation burden that would fall on them in the event of any actual restriction on private driving. Plans are to keep busses and taxis operating at the highest efficiency and with the least possible consumption, spokesmen for both services said.

Group to Negotiate For Steel Priority

NPN News Bureau

WASHINGTON, July 21—Setting up of an industry committee to negotiate for a priority rating to insure a continued supply of steel for the oil and other industries has been the outcome of a conference here today between 40 representatives of the steel drum industry and the Office of Production Management's purchases division, according to an OPM spokesman.

This committee will confer with OPM on priority question later this week, spokesman said. Meanwhile, industry representatives attending meeting were reported as having emphasized need for priorities to obtain plate steel to continue present rate of production of steel drums, and as pointing out that the oil industry is a large user of these drums.

Rigid Oil Prices In Canada May Follow Curb on Selling

Special to NPN

TORONTO, July 21—Future rigid control of oil prices in Canada is hinted broadly in Canadian Oil Controller G. R. Cottrelle's new order, effective today, which prohibits sale of gasoline and motor oil between the hours of 7 p.m. and 7 a.m. on week-days and all day Sundays—from 7 p.m. Saturday to 7 a.m. Monday.

Rising prices have so far played a major role in Canada's efforts to conserve petroleum products needed for British fighting forces. The big push came this week, when a newspaper advertising campaign (see cut) by the Canadian government urging a 50% reduction in Canada's use of petroleum products was launched and 1c per gal. increases in gasoline, kerosine and distillate prices were authorized by the oil controller. A 27c per bbl. hike in Turner Valley crude was also approved.

See Further Hikes

It is intimated that these advances are only the beginning. The 1c hike in gasoline tank wagon prices presages an advance in service station prices, but with stations closed, by order, over half of the week—96 hours out of 168— and purchases expected to be cut 50%, some steps will undoubtedly have to be taken to increase dealers' margins, it is believed.

The first step, however, has been to eliminate all discounts and concessions. Under today's order, No. 005, "a dealer shall not . . . either directly or indirectly . . . procure, enable or assist any person to purchase or continue to purchase motor fuel and/or lubricants from such dealer, or from any other person, by giving, providing, offering or promising in any manner any money, property, loan of money or property, gift, concession, allowance or other benefit of any kind including any concession as regards the price of motor fuel and/or lubricants and any unusual credit terms which are equivalent to such a concession."

Bans Consumer Discounts

Much the same wording is applied to paragraphs referring to distributors giving discounts to dealers or consumers. No consumer, no matter how large, will, effective today and until further order, be able to purchase petroleum products from suppliers at prices lower—or higher—than those charged by suppliers to their dealers, according to the oil controller.

In an explanatory supplement to the order, the oil controller's office states: "All concessions and allowances of every nature and kind are now prohibited and must be immediately discontinued, notwithstanding the terms of any existing lease, contract or agreement. This is now essential as the exigencies of war emergency (including transportation, delivery and supply) will no doubt necessitate a rigid control of prices throughout the industry."

Whole purpose of the new order is apparently to freeze even more rigidly the account relationships now existing in order that hardship to retail dealers resulting from the expected reduction in sales will be evenly spread. It is interpreted as meaning that no one, by means of special discounts or allowances, will be permitted to continue operation of stations that otherwise could not economically exist.

Other Highlights Given

Other highlights of the new order are:

1. Credit cards are banned.

2. New "split" accounts are prohibited.

3. Distributors are prohibited from making deliveries into equipment belonging to any other distributor.

4. Distributors taking over new accounts must not make deliveries until and unless a requisite notice has been given and a 10-day period expired.

5. Oil industry must operate on a tank-car, tank-wagon and a retail price without deviation therefrom by direct, indirect or surreptitious means. "The industry is warned that if a distributor whose prevailing price is less than that of another distributor in the same vicinity uses that fact as an instrument to disturb the loyalty of dealers supplied by such other distributor, then this practice may well precipitate rigid price fixing and control."

6. Consumers who purchase in quantity are prohibited from selling for use in privately-operated vehicles whether or not they are used in the business of such consumer. "This practice is unfair to licensed dealers and would interfere with adequate control of the price of motor fuel and/or lubricants if and when that may become necessary. It would also interfere with any system of rationing which may become necessary.

7. Army canteens are prohibited from selling to any member of the armed forces for private purposes.

8. No additional pump or storage tank for dispensing or storage of motor fuel or lubricants "shall hereafter be installed or used in any dealer's station or in any distributor's station."

9. No tank wagon or other vehicle to be used for the sale of motor fuel and lubricant may hereafter be purchased or otherwise procured by any person who does not own and/or operate bulk storage facilities.

10. Such vehicles may be used to handle gasoline or lubricants to or from bulk storage owned or operated by the owner of the vehicles.

Seek Canadian Motorists' Co-operation

"CALLING ALL CARS"
Save Gasoline
A NATIONAL EMERGENCY
Canada is right up against an acute shortage of gasoline and fuel oil. Tankers that normally supply our country have been commandeered for vitally important overseas service.
The Commonwealth Air Training Plan, the rapid development of Canada's mechanized army units and the great work carried on by our corvettes make the demand for fuel urgent.
Our crude oil intake is limited. There is just one thing to do if our fighting forces are to carry on with a "full tank". Every Canadian motorist is asked to cut his daily gas consumption in half!
There are many ways by which this 50% saving can be made . . . ways and means to give you more mileage per gallon. You can drive slower so that you will use less gasoline. You can go fifty-fifty with your neighbours, inviting each other to share cars . . . for business, and for pleasure. People can readily go to and from work together, using one car instead of four . . . using one gallon of gasoline instead of several. Women as well as men can make these savings.
The amount of gasoline used in Canada for business, social and non-essential activities is amazingly high in proportion to that used by our fighting forces. One look at the figures would convince you that this situation must be reversed.
17 easy ways towards a 50% GASOLINE SAVING
(Approved by Automobile Experts)
Reduce driving speed from 60 to 45 on the open road.
Avoid jack-rabbit starts.
Avoid racing or non-essential driving.
Turn motor off when not in use, do not leave idling.
Don't race your engine; let it warm up slowly.
Don't drain your engine; change gears.
Keep carburetor cleaned and properly adjusted.
Tune up motor, timing, etc.
Keep spark plugs and valves clean.
Check cooling system; overheating wastes gasoline.
Maintain tires at right pressure.
Lubricate efficiently; worn engines waste gasoline.
Drive in groups to and from work, using cars alternate days.
For golf, picnics and other outings, use one car instead of four.
Take those short shopping trips ON FOOT and carry parcels home.
Walk to and from the service.
Boat owners, too, can help by reducing speed.
Your regular service station man will gladly explain these and other ways of saving gasoline. Consult him.
GO 50-50 WITH OUR FIGHTING FORCES
Canada does not ask or request you to put your car up. She merely asks for your help . . . asks that you walk sometimes when the distance isn't too great . . . that you take a shorter drive on Sunday afternoon . . . that you look after your car and keep it in good condition . . . that you say to your neighbour: "Let's use my car today, Jim; we'll use yours tomorrow".
Every day, in greater and greater quantity, we must release gasoline and oil by the thousands of gallons to our throbbing munitions plants . . . to our tanks and armoured cars . . . to our fighting planes and bombers . . . to our corvettes and merchant ships that ply the vital sea-lanes . . . so that the day of victory may sooner be at hand.
Will YOU help?
It is also vitally important that you reduce the use of domestic and commercial fuel oil.
The Government of the DOMINION OF CANADA
ACTING THROUGH
THE HONOURABLE C. D. HOWE, Minister of Munitions and Supply
G. R. COTTRELLE, Oil Controller for Canada
Spare and Share your Gasoline for VICTORY!

Advertisements, like above, were published in Canadian newspapers last week. Co-operation of the public was sought to conserve gasoline and oil

Rationing Systems Studied by Canada

Special to NPN

TORONTO, July 21—Restrictions on the sale of gasoline in Canada from 7 P. M. to 7 A. M. daily and all day Sunday, due to transportation difficulties has prompted the study by government authorities of systems of control in various other countries that have found restrictive measures necessary. The card system is generally conceded to be the most efficient but Canadian authorities seem to veer away from it because of the expensive administrative machinery it entails.

In this connection, New Zealand has had government rationing since September, 1939, except for a short period from December 1, 1939, to January 31, 1940. Originally designed to curb waste, the restrictions have been extended. Coupons are issued monthly for private cars and special licenses for commercial vehicles and cars used for business purposes.

'Canada Plan' Use In U.S. is Urged

CLEVELAND, July 21—Adoption in the U. S. of the "Canadian Plan" for gasoline and lubricant conservation—closing service stations from 7 p.m. to 7 a.m. on week days and all day Sundays—is urged by John H. Donahue, Pittsburgh, president of the Gasoline Dealers Assn. of Allegheny County.

"Canada has taken the lead in showing the way for the conservation of these commodities," Mr. Donahue states in a letter

to NPN in which he expresses opinion that adoption of Canada's methods in the U. S. would obviate necessity for "gasless" days, rationing cards "and other incidental red tape with the resultant hardships, additional work, and reports that such action would impose on the motorist, the dealer and the government as well."

Mr. Donahue said he believed the "Canadian Plan" far superior to any proposed plan in the U. S., and estimated a saving of more than 2,000,000 kilowatt hours of electricity each day through closing some 400,000 service stations throughout the U. S. from 7 each evening to 7 the next morning.

Burner Output Cut Held a Possibility

NPN News Bureau

WASHINGTON, July 21.—Possibility that the government is about ready to curtail oil burner production has been suggested by Leon Henderson, head of Office of Price Administration and Civilian Supply.

Mr. Henderson's suggestion was contained in an announcement of his plan to reduce by 50% the consumption of strategic raw materials in the automobile, mechanical refrigerator, and laundry equipment industries. Stating this curtailment program would necessarily be extended to other industries, Mr. Henderson mentioned that OPACS had held several conferences with these other industries, such as the meeting of heating equipment manufacturers, which included makers of oil burners.

Heating equipment meeting was held here last week and, according to an OPACS spokesman, was devoted to discussions of how strategic raw materials could be conserved for defense. Oil burner manufacturers were not told how much their production might be curtailed, spokesman said.

Refinery Improvement Made By Petroleum Specialties

NPN News Bureau

CHICACO, July 21. — A license agreement with Universal Oil Products Co. has just been signed by Petroleum Specialties, Inc., now modernizing its refinery at Flat Rock, Mich., to install latest improvements in the Dubbs cracking process.

At present, Petroleum Specialties is running 2350 bbls. of crude daily and is cracking about 600 bbls. of topped crude. Capacity will be stepped up to 900 bbls. when improvements are completed.

West Gallogoly is president of Petroleum Specialties and C. S. Whitman is refinery engineer.

U. S. Companies Use Ads To Tell Public Methods of Saving Gasoline and Oil

NPN News Bureau

NEW YORK, July 21.—In cooperation with Oil Co-ordinator Ickes' requests to motorists and home-owners to conserve voluntarily gasoline and heating oil in the face of imminent shortage of these and other petroleum products along the East Coast and complying with the co-ordinator's voluntary suggestion that oil companies shift the emphasis in their advertising to institutional copy, several major oil companies have inaugurated campaigns utilizing newspapers and radio broadcasts to educate the public along conservation lines.

Atlantic Refining Co., Philadelphia, has recently run 3 separate campaigns in the 125 newspapers in its marketing territory instructing people in proper steps they could take to reduce consumption of both gasoline and heating oil. Headlining one campaign as "Here Are The Facts About The Possible Shortage Of Gasoline And Furnace Oil," the company outlined the methods of petroleum transportation, explained the diversion of 50 American-flag tankers to British service, of which it mentioned 3 were company vessels. The ads also stressed that the problem is one of transportation and not of production, urged the public to face the facts and realize that even further tanker diversions are possible.

Discusses Furnace Oil

In its second campaign, entitled "What Are The Facts About Furnace Oil For Next Winter," Atlantic describes the steps it is taking to avoid shortage by increasing stocks, advancing tanker transportation efficiency and also the number of tankers available and points out that the public can assist by maintaining oil burners at top efficiency and by constant check-ups on oil burner units.

The third newspaper campaign is devoted to suggestions calculated not only to save gasoline and oil but also to pro-

Flash!

OPACS Freezes Gasoline Price at Gulf

How Oilgram Covered . . .

FULL, official details from Washington hummed over teletype lines to OILGRAM news bureaus in Cleveland, Tulsa, and New York, on Thursday, July 17, 1941. OILGRAM reporters in Tulsa and New York swung into action . . . contacted refiners, obtained comments on Henderson's move, and "rounded out" this news story.

Next morning, every OILGRAM reader had the complete story and text of Price Administrator Leon Henderson's release requesting that all Gulf refiners make no sales of minimum 80 octane ('39 Research) gasoline at the U. S. Gulf above 6 cents per gallon.

Right now, you will especially want to keep-up with all important Washington developments that will vitally affect your operations. OILGRAM readers expect and get full, official coverage on all significant oil developments.

YOU can have OILGRAM NEWS section on your desk every morning for 19 cents per day—$50 a year, or $15 for 3 months, payable in advance. Complete OILGRAM, both news and price services, $100 a year in advance.

ACT NOW! Keep informed on oil with OILGRAM. Send your order today!

***Platt's* OILGRAM**

1213 West 3rd Street • Cleveland, Ohio

[Published simultaneously every business day from TULSA—CLEVELAND—NEW YORK]

long the life of the car itself. Among these are the avoidance of high-speed driving, maintenance of regular tire pressure, constant checks on oil-bath air cleaners, cooling systems and batteries, lubrication every 1000 miles and complete automobile check-up every 6000 miles.

Broadcasts Recommendations

Radio commercials have been utilized by Standard Oil Co. of New Jersey and Socony-Vacuum Oil Co. in their moves to educate the driving public along conservation lines.

The "Esso Reporter" news program which appears some 26 times weekly has included as commercials hints to motorists, whereby they can assist the oil companies and the government, such recommendations as the "good neighbor policy" of giving friends and associates rides to work, the store, church, or the golf links and to use their cars as little as possible. Some of its radio time, it devotes to explaining the tanker situation and the requisitioning of American tonnage to Great Britain.

Socony's news programs have adopted a similar procedure and in brief commercials, interspersing the regular news flashes, ask motorists to keep their cars at the highest operating efficiency, to avoid racing and idling motors and to cut down on excessive speeds.

O. B. I. Advertises

Besides active oil company advertising, the Oil Burner Institute has resorted to newspapers (see accompanying illustration) to inform the "5,000,000 families who will heat with oil next winter" of how they can help reduce the threat of shortage particularly in heating oils by maintaining burners at highest operating efficiency, using accurate thermostat controls, installing storm sashes and insulation, and a number of other devices to be employed in the O.B.I.'s "War on Waste" and program to cut down fuel oil consumption by 25% or more.

Bank Gives Details

The Bank of New York has likewise turned to newspaper advertisements to tell the public that "if civilian shortages occur, they will probably be due to difficulties of transportation, not to lack of oil." Other companies also have indicated that they are actively considering the most effective ways and means of reaching the public and doing all in their power to see that people have sufficient gasoline for their automobiles and heating oil for their winter comfort.

•

D.C. Oil Plan Draft Nears Final Stages

NPN News Bureau

WASHINGTON, July 21.—Drafting of the model District of Columbia fuel oil conservation program requested by Oil Co-ordinator Ickes will be completed by the end of this week, Maj. B. C. Snow, D. C. oil conservation committee chairman, reported today.

Program will be submitted for final approval to the District commissioners in the same way as the D. C. gasoline conservation program which since has been sent by Co-ordinator Ickes to 16 Eastern governors for use in formulating gasoline-saving programs for their respective states, Maj. Snow said.

Formulation of the D. C. fuel oil conservation program got under way here last week at a meeting of District fuel oil distributors, called by William Van Duzer, who had been designated by the D. C. oil conservation committee to draft the fuel oil program.

Flue Gas Analysis

Distributors' meeting was conducted by Le Roy Gritzan, of the Washington Electric Institute's oil burner division. Gritzan urged that oil burner repairmen be equipped with "flue gas analyzers", mentioning U. S. Department of Agriculture statements that the use of these analyzers would result in fuel oil savings of more than 12%.

OBI Maps Program To Raise $100,000

By NPN Staff Writer

NEW LONDON, Conn., July 21.—Emergency fuel oil conservation program of the Oil Burner Institute received "a shot in the arm" here today when 100 representatives of the oil burner and affiliated industries met in special session and mapped a fund-raising campaign to back O.B.I.'s pledged "war on waste."

Session was opened with a plea by Ray G. Whipple, O.B.I. president, for "cash, hard cash and plenty of it if you wish to save your $20,000,000 industry." Later, when floor was thrown open to discussion, resolution was proposed and adopted to base all contributions to the emergency campaign on a formula of dollar sales to the industry by all manufacturers, whether of oil burners or parts.

Need $100,000

H. F. Hildreth, Westinghouse Electric and Manufacturing Co. and chairman of the O.B.I. finance committee, stated $100,000 is required to swing the campaign aimed at bringing all oil burner installations on the East Coast up to peak efficiency. So far, $16,908 has been contributed, Mr. Hildreth said.

Recent adverse publicity concerning the oil burner industry was cited by Mr. Whipple in his talk before the group. Much of it has subsided, however, he said, but added that requisitioning of an additional 100 tankers for British service, move by Canada to curtail oil burner sales and the question of priorities all present grave threats to the U. S. oil burner industry. He urged that the burner manufacturers "show Washington" that proper conservation steps through bringing burners to maximum efficiency rather than restriction of sales is the answer to the present problem.

Another meeting of O.B.I. will be called "within the next 3 or 4 weeks."

TO 5,000,000 FAMILIES WHO WILL HEAT WITH OIL NEXT WINTER . . .

EVERY STEP TO ASSURE HEAT WILL BE TAKEN BY YOUR GOVERNMENT

YOUR Government is primarily concerned with getting oil into homes, so people can keep warm next winter. If it comes to a question whether fuel oil, or gasoline for pleasure driving, is to be shipped, you can be sure the oil will be sent.

Homes dependent on oil heat have assurance that the Government is taking vigorous action to see that *oil will be provided.* But our Government has the right, in fairness, to expect that every user of petroleum products shall *conserve* them, *and avoid waste.* Your *individual* cooperation will assure a supply.

OIL PRICES ARE BEING CONTROLLED

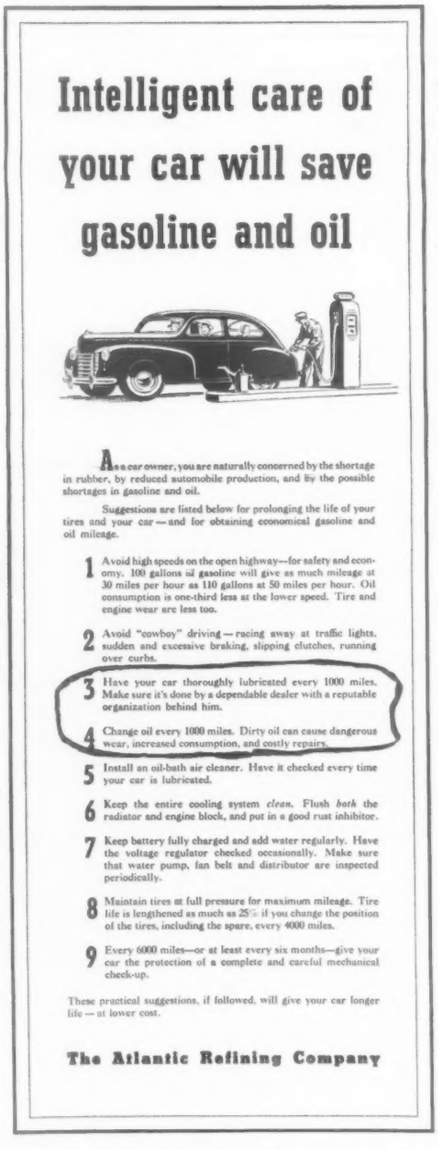
HOW YOU CAN SAVE MONEY

BUY U. S. DEFENSE BONDS WITH THE MONEY YOU SAVE

The Importance of Oil Burners in Our National Economy

4 WAYS TO SAVE MONEY WHATEVER TYPE OF FUEL YOU USE

Above newspaper display, paid for by Defense Emergency Committee of the Oil Burner Institute, appeared last week in New York Herald-Tribune and Washington, D. C., Star



Intelligent care of your car will save gasoline and oil

As a car owner, you are naturally concerned by the shortage in rubber, by reduced automobile production, and by the possible shortages in gasoline and oil.

Suggestions are listed below for prolonging the life of your tires and your car — and for obtaining economical gasoline and oil mileage.

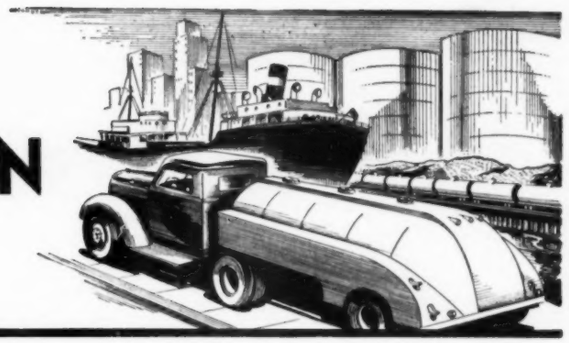
1. Avoid high speeds on the open highway—for safety and economy. 100 gallons of gasoline will give as much mileage at 30 miles per hour as 110 gallons at 50 miles per hour. Oil consumption is one-third less at the lower speed. Tire and engine wear are less too.
2. Avoid "cowboy" driving — racing away at traffic lights, sudden and excessive braking, slipping clutches, running over curbs.
3. Have your car thoroughly lubricated every 1000 miles. Make sure it's done by a dependable dealer with a reputable organization behind him.
4. Change oil every 1000 miles. Dirty oil can cause dangerous wear, increased consumption, and costly repairs.
5. Install an oil-bath air cleaner. Have it checked every time your car is lubricated.
6. Keep the entire cooling system *clean.* Flush *both* the radiator and engine block, and put in a good rust inhibitor.
7. Keep battery fully charged and add water regularly. Have the voltage regulator checked occasionally. Make sure that water pump, fan belt and distributor are inspected periodically.
8. Maintain tires at full pressure for maximum mileage. Tire life is lengthened as much as 25% if you change the position of the tires, including the spare, every 4000 miles.
9. Every 6000 miles—or at least every six months—give your car the protection of a complete and careful mechanical check-up.

These practical suggestions, if followed, will give your car longer life — at lower cost.

The Atlantic Refining Company

Above appeal to East Coast motorists, by Atlantic Refining Co., appeared in Philadelphia and other newspapers in Atlantic's marketing territory. Circle around suggestions No. 3 and 4, emphasizing need of regular lubrication, are NPN's

OIL TRANSPORTATION



Report 9 Tankers May be Purchased

NPN News Bureau

NEW YORK, July 21 — Recent trade reports indicate a pending deal between a major oil company and a large shipping concern here involving sale of 9 tankers with an estimated total deadweight tonnage of 192,356 for an undisclosed price.

These boats which are said to represent the greater part of the shipping company's tanker fleet have a total annual carrying capacity of well over 13,000,000 bbls. based on 30 gravity crude and, following the closing of the transaction, will be placed in domestic runs between Gulf Coast ports and points north of Hatteras.

Already in active service between the American Gulf and the East Coast are the "Mevania" of 6886 gross tons and the "Imlay" of 6779 gross tons, 2 older-type tankers recently sold for a reported $400,000 apiece by a large shipping company here to an independent oil company and a major oil company, respectively.

Must Have Approval

A third tanker, the "Malacca" of 7051 gross tons, was also sold recently by the New York shipping concern, this to an American oil company with foreign affiliations. Doubt has been cast as to whether this vessel is actually in service on her proposed run from Mexican ports to the North Atlantic seaboard, it being pointed out in the trade that as she now belongs to a concern over 50% foreign-owned, she must have the approval of the Maritime Commission in Washington before being allowed to haul products.

Another condition that must be satisfied, it was learned, is that she must serve in actual coastwise domestic service for at least a year. Approval of the Commission must be obtained on or before July 30, else the deal is cancelled, reports added.

Selling price of the "Malacca" was also said to be around $400,000. While also an older-type ship, she is capable of 9½ knots and can haul some 80,000 bbls. The "Imlay" and the "Mevania" range about the same speed but have a slightly less carrying capacity, around 79,500 bbls.

Plantation Pipeline Laterals Now Under Contract

NPN News Bureau

NEW YORK, July 21.—Two extensions of the Plantation Pipe Line Co.'s 1289-mile petroleum products line from Baton Rouge, La. to Greensboro, N. C. are now under contract, a company spokesman told NPN. These are the 12-mile lateral line from Helena to Birmingham, Ala. and the 72-mile lateral line from Helena to Montgomery, Ala.—both under contract to Ray R. Littrell Construction Co. of Pascagoula, Miss. Construction, however, will not begin until the main

First Keel Laid on 72-Tanker Order

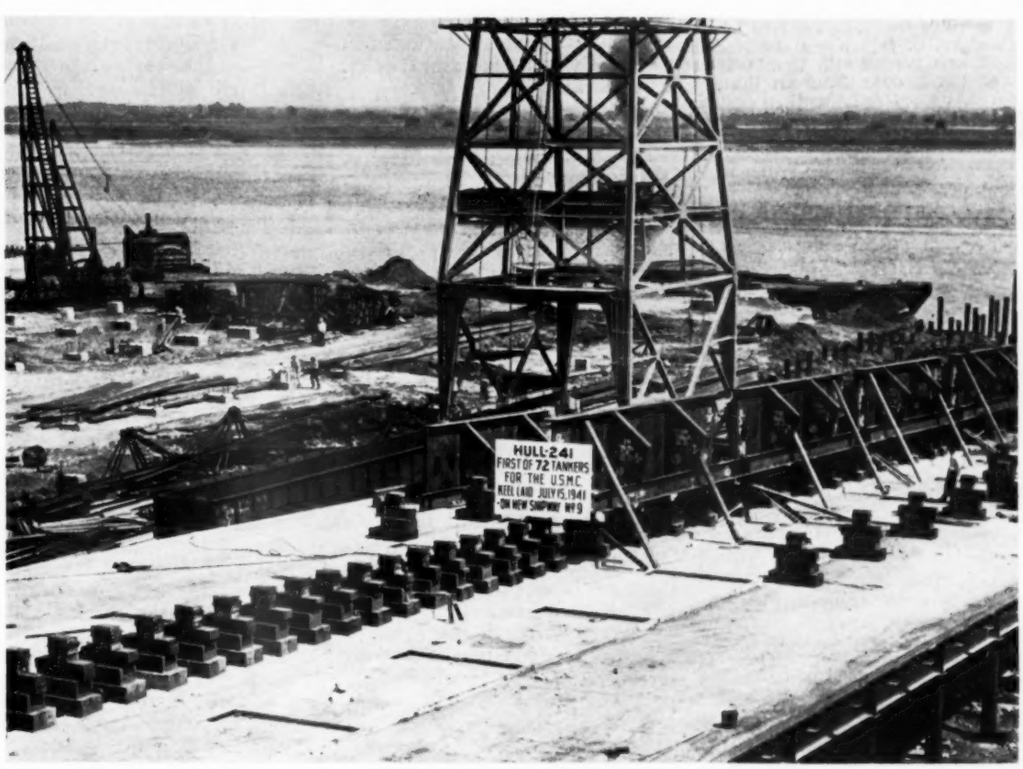
CHESTER, Pa., July 21.—U. S. Maritime Commission's huge new tanker building program reached the "visible results" stage last week when keel of the first of 72 new tankships was laid at the Sun Shipbuilding and Dry Dock Co. yards here. Keel was laid just 7 weeks after contracts for the $194,400,000 order were signed.

The new tanker is building on the first of 12 additional ways constructed by Sun to handle the largest single order yet placed with a shipyard by the commission. Known as Hull No. 241,, the new vessel is scheduled for launching on Dec. 31, 1941, and delivery on Feb. 28, 1942. All 72 tankers under the commission's contract will be in service by the end of 1943, at least 25 of them being delivered during 1942.

Specifications Given

Each tanker at the Sun yards is of 10,750 gross tons and has a carrying capacity of 138,000 bbls. Contracts call for vessels of 503 ft. length, 69 ft. beam and 39 ft.-3 in. depth. Engines will develop 6000 horse-power in each tanker and speed set at 14½ knots.

In addition to the 72-tanker order, Maritime Commission has 11 others under contract, 5 of which are also with Sun Shipbuilding. Other 6 are being constructed by Bethlehem Steel Co., Shipbuilding Division, Sparrows Point, Md.



As keel is laid at Sun Shipbuilding and Dry Dock Co. for the first of U. S. Maritime Commission's 72-tanker order. Twelve new ways are being built to handle USMC's $194,400,000 contract

line has been laid and this will not be started until the Cole pipeline bill, now pending before the House of Representatives is approved.

No contracts have as yet been let on the Columbus to Macon, Ga. spur line.

ICC Calendar On Oil Trucking

DECISIONS

Elton Murrell Chester, San Jose, Calif. (MC-100971, Sub-No. 5) Public convenience and necessity found to require operation by applicant as a common carrier by motor vehicle of liquefied petroleum gas, in bulk, in tank trucks, from Ventura and Kettleman City, Calif., and points within 35 miles of each to specified points in Oregon, over irregular routes. Issuance of a certificate approved upon compliance by applicant with certain conditions and application in all other respects denied.

John W. Law, Rocky Ford, Col. (MC-10124, Sub-No. 2.) Public convenience and necessity found to require operation by applicant as a common carrier by motor vehicle of petroleum products, in containers, from Coffeyville and Neodosha, Kan., Ponca City, Enid, Barnsdall, Cushing, and Tulsa, Okla., to points in Colorado east of the continental divide. Issuance of a certificate approved upon compliance by applicant with certain conditions.

Leo M. Slade, El Dorado, Ark. (MC-605.) Applicant found to have failed to establish the right to a certificate of public convenience and necessity under "grandfather clauses" to continue operation as a common or contract carrier of oil field equipment between oil fields in Arkansas, Louisiana, Texas, Mississippi, and Oklahoma, over irregular routes. Application denied.

Investigation and Suspension Docket No. M-1552. Proposed minimum rates by R-B Freight Lines, Aberdeen, S. D., on petroleum and petroleum products in tank trucks, minimum 3,000 gals. from Billings and Laurel, Mont., and Newcastle and Osage, Wyo. to certain destinations in North Dakota and South Dakota found lawful. Suspension order vacated and proceeding discontinued.

F. W. Thompson and Joe Bookshnis, Portland, Ore. (MC-19339, Sub-No. 5.) Public convenience and necessity found to require operation by applicants, in interstate or foreign commerce, as a common carrier by motor vehicle, of petroleum products, in bulk, in tank trucks, from Vancouver, Wash., to points in Oregon, with certain exceptions, and from Portland, Ore., to Vancouver, and from Vancouver and The Dalles and Umatilla, Ore., to points in Nez Perce County, Idaho, and Asotin and Garfield counties, Wash., and from Attalia, Wash., to points in Nez Perce County, Idaho, over irregular routes. Issuance of a certificate approved upon compliance by applicants with certain conditions, and application in all other respects denied.

J. J. & E. D. Wellspeak, Springfield, Mass. (MC-5938.) Applicants found entitled to continue as a common carrier by motor vehicle, of petroleum products in bulk, in tank trucks, from East Hartford, Glastonbury, and New Haven, Conn., to Springfield, Mass., and all points in Massachusetts within 20 miles thereof, over irregular routes. Issuance of certificate approved upon compliance with certain conditions and application denied in all other respects.

War Department to Inventory All Trucks, Buses in U. S.

NPN News Bureau

WASHINGTON, July 21. — War Department's national inventory of all trucks and buses to plan their use in any emergency will get under way early in September, John M. Carmody, Federal Works Administrator, reported.

Purpose of inventory is to set up detailed central and regional registers of all trucks, buses and freight trailers in the country, similar to the records already available on railroads, water shipping and aviation. Request for the inventory, coming from the National Defense Advisory Commission, is in recognition of the importance of truck and bus transportation in the present emergency, according to Thomas H. MacDonald, commissioner of public roads.

Maine Legislature May Speed Montreal-Portland Pipeline

NEW YORK, July 21.—Special session of the Maine legislature which had announced its *sine die* adjournment on April 26 may be called at an early date to consider ways and means of rushing construction of the Standard Oil Co. of New Jersey's new Portland to Montreal pipeline, according to recent trade reports. All members of the pipeline commission were either in Montreal or in Portland, a Jersey Co. spokesman said and could not be reached for comment.

If session should be convened, legislature probably will not be held just to topics mentioned in Gov. Sewall's proclamation, it was learned.

Paul Griffin Named Head Of Oklahoma Pipe Line

TULSA, July 21.—Paul Griffin has been named president of Oklahoma Pipe Line Co. to succeed W. R. Finney, now in New York in the executive department of Standard Oil Co. of New Jersey, parent company of Oklahoma Pipe Line.

Bruce Ramsey, former director and general superintendent of the pipeline company has been named to fill the vacancy created by Mr. Griffin's promotion.

Suggest Oil Rail Hike

ST. LOUIS, July 21.—Western Trunk Line Committee will consider proposal for a 0.0198c per gal. reduction in light oil rates from Group 3 (Oklahoma) origin points to Chicago and intermediate points. Rate of 2.178c proposed in the W. T. L. docket was disapproved recently by Southwestern Freight Bureau. Proposal would also maintain the present relationship in rates from other groups, it was reported.

Help on Texas Output Puzzle Asked of District Committee

BULLETIN

AUSTIN, July 22—Texas August production has been set at 1,355,000 bbls. daily, 6000 bbls. below Bureau of Mines' demand estimates, according to Texas Railroad Commission order yesterday. Order was based on same yardstick formula commission has used in past. Panhandle gets 5 shutdown days; rest of state 10.

Special to NPN

AUSTIN, July 21.—With Texas refiners and producers crying for more crude and the U. S. Bureau of Mines turning in consistently lower demand estimates for the state, the Texas Railroad Commission has asked the regional committees, in District 3, named by Oil Coordinator Ickes to try and iron out the situation.

The July 16 state-wide proration, which almost saw a fist fight between 2 oil representatives, left on commissioners' desks nominations by purchasers for a 45,308 bbl. daily increase for August as compared with July average.

Production Hike Asked

Requests for increased production came from nearly every section. The Texas Co. alone asked 25,000 bbls. more daily.

J. S. Leach, representing the company, said there is an urgent need for more crude production in Texas. He told the commission that the run of crude to stills set an all-time record for the week of July and that crude stocks are as low now as it is safe to have them. He urged greater stocks in view of the fact that government orders for high-test gasolines are "issued overnight."

Railroad commissioners asked Mr. Leach what they should do when nominations are far higher than bureau estimates. Mr. Leach suggested that the commission try and explain the situation to the bureau.

Refer to Ickes' Group

Commissioner Jerry Sadler said the commission has been trying to do this for some time and suggested that the regional co-ordinators named by Mr. Ickes for this section (District 5) take up the matter with the bureau.

A proposal that the sprawling East Texas field be shut down for several weeks so declining gas pressures could be built up came in for considerable opposition.

Lloyd Holsapple, engineer for Sinclair Refining Co., submitted figures which he said were taken from tests on 360 wells in the field. His tests showed that the decline in gas pressure for the past 3 months was less than it was the first 3. On July 1, he said, tests showed an average bottom hole pressure of 1037 lbs. compared with 1045 lbs. on April 1.

Good for 13 Years

A water drive in the field keeps up the pressure, he testified, and at the present rate of production it will take 13 years for the pressure in the field to drop below the "bubble point".

Mr. Sadler said the commission figures a pressure of 1020 lbs. is a danger point where pumping equipment might have to be installed, and that the commission has to take into consideration a possible shortage of pumping machinery due to lack of steel. He said proration would be difficult if one producer was able to get equipment and another wasn't.

Drop Unexplained

Dr. V. F. W. Patton, chief production engineer for the commission, said the field is subject to unexplained pressure drops and that the withdrawal of water could not be considered entirely responsible. This was in answer to a suggestion by Frank Speller, Jr., engineer for the Delta Drilling Co., that a program be adopted for the reinjection of water on a unitized, subsidized system.

The near-fight came late Wednesday between Tom Hunter, one-time candidate for governor, and D. G. Gray of Wichita Falls. Hunter asked Gray whom he represented, and Mr. Gray named among others, C. P. McGaha, well-known north Texas operator.

"I say you are a damned liar if you say you represent McGaha," Mr. Hunter said.

Fight Averted

Mr. Gray took off his glasses and started toward Mr. Hunter, who was on the other side of a table at which newsmen were seated. A reporter temporarily blocked Mr. Gray by shoving his chair back to get out of the way and by that time Mr. Sadler had vaulted over another desk and intervened.

Mr. Gray said he made his request (on allowables) at the request of Mr. McGaha, but Mr. Hunter charged that Mr. McGaha was opposed to the recommendation and had written the commission to that effect.

"I regret that it was necessary for me to say what I did at this place," said Mr. Hunter, "but he doesn't represent Wichita county's views."

Mr. Hunter added that he would "see Gray later."

"Let me know," Mr. Sadler laughed, "I want to see it. I hate to stop a fight."

Standards, Merchandising In Tire Renewal Business Probed for Oil Marketers

Inspection is considered the most important part of the tire renewal operation. If not properly done under rigid standards there is almost sure to be trouble. The smooth tire is placed on a spreader and examined inside and out for any flaw in the casing that might impair future service. Damaged tires are rejected at this point by reputable tire renewal shops

NPN presents its second article in a series on tire renewal and the problems and profit possibilities it holds for oil marketers. Standards to be followed to keep the business from "back-firing", how tire renewal is merchandised, recommendations of the rubber industry associations and additional information on equipment are highlights.

Another article, telling how a successful oil marketer handles his tire renewal business, will be published in an early issue. First article in the series appeared in the July 16 issue, page 21.

CAN AN oil marketer enter the tire renewal field without risking his primary business objective as a supplier of petroleum products?

That's a question oil company management is asking when possible "kickbacks" from tire-renewal operation are considered. In delving for the answer, the oil marketer should be aware of the fact that there are now at least 3 organizations which protect and guide tire renewers and help them formulate their policies and standards of operation.

1. The Rubber Manufacturers Assn. —"the A.P.I. of the rubber industry"— issues manuals on retreading and recapping which, when followed, insure high standards of workmanship;

2. The National Assn. of Independent Tire Dealers likewise has standards for its members to maintain;

3. The National Institute Retread Standards is an association which issues its seal to renewers whose plant, skill and integrity have been established.

All of these sources, and perhaps others, are available to marketers in starting and continuing on the right track in the tire renewal business.

There is nothing complicated about these standards. Their administration is no greater problem than is constantly a part of oil company management. The oil marketer in the tire renewal business will find that results obtained with renewed tires pretty well match the ethical standards and capabilities of the shop doing the work.

Passenger car tire renewal appears the most fertile field of operation for oil marketers entering the renewal business. This is principally from 2 reasons: (1) marketers' stations are in contact and are selling motorists each day, (2) and established renewal shops heretofore have aimed their main efforts at truck tire renewal business—particularly fleets.

Aside from the theme of necessity for rubber conservation, sales promotion intended to show motorists that tire renewal is sensible and practical—even patriotic — which oil marketers will be able to use, is the selling point of major tire companies that tire renewal: "Adds more than 80% to your tires at 50% of the cost."

The usual custom is for the tire renewal shop to guarantee the buyer 80% of the mileage the casing had already run before it was brought in for retreading or recapping. The equipment suppliers and tire companies in their sales promotion publish many actual examples of companies who have secured that or better mileage on renewed tires.

How Profits are Made

The marketer entering the tire renewal business will find that the largest profit on tire renewal is made by the shop which builds the best possible tread and charges from 50 to 55% of new tire list prices. He will find that there are 3 grades of camelback, the rubber strip used in the retreading process; that the first grade is equal in quality to the tread stock used by the tire companies in their first-line tires; that other grades range down to stock made up mainly of old tire buffings.

The new oil marketer-tire renewer will also find that he's bucking 2 distinct types of competition: that from high-type shops with full, modern equipment, highly trained personnel

A Tire is Re-Born

Strip of pictures show four consecutive steps in tire renewal

Tire to be renewed is first buffed to prepare a proper surface for cement and foundation for the camelback. Buffing dust and lint is generally picked up by a blower. The dust sells for approximately $20 a ton . . .

After the rasped surface is dressed with rubber cement, the camelback is applied. Approximately 6 lbs. is required for a 600 x 16 tire. Last quotation on the 3 grades of camelback was 26c, 21c and 16c per lb., respectively . . .

A power stitcher, or tread roller, is used for rolling down the camelback. This squeezes the new tread surface to the cemented casing, driving out all air. Hand rollers are used in some shops . . .

Next, a heavy duty curing tube is inserted in the tire which is then mounted on an adjustable rim. Tire is placed in the hot recapping mold, the pressure plate locked and the tire inflated. The fresh tread rubber, under heat and pressure, is permanently vulcanized and correctly cured . . .

and keen managers and that from plain price-cutting "fly-by-night-gips."

His promotion efforts to the public will talk economy; that retreading is made possible by the fact that 75% of the cost of a new tire is for the casing, only 25% for the tread. In other words, a smooth tire, apparently worthless, is actually more valuable than the tread that has been worn away.

In discussing the possible failure or success of a tire renewal shop with "old timers" who have seen little shops be quite successful and still others, large and small, fall completely flat, it is their opinion that where there is a failure, the shop is not properly equipped and does not follow the standards set up by the rubber industry for a first class job.

Standards for Judging

The following standards, as set forth by an engineer of a major tire company, as a guide in rating a well equipped shop, might also be used for oil marketers in judging whether or not their renewal connection is up to standard, even though the marketer may have no intention of setting up his own shop at this time.

1. Good buffing equipment for removing the tread uniformly so as not to throw the tire out of balance.
2. Facilities for handling the dust from the buffing operation.
3. A clean, dry room with proper temperature maintained for drying the cemented casings.
4. Modern curing molds, which are adjustable, so as to fit all makes and sizes of tires properly. This is important, since a mold which is too large will either produce a spongy or light tread, or subject the tire to unnecessary stretch. A mold which is too small may buckle the tire.
5. The molds should provide proper tread widths and curvatures consistent with good tire design.
6. There should be adequate boiler capacity and proper regulators to maintain the cure at the proper temperature.
7. There should be an adequate air supply with proper pressure regulators.
8. The shop should also be equipped to do all kinds of tire repair work.
9. The first class shop will use only the highest quality materials.

Main 'Curing' Factors

In connection with this engineer's recommendation on boilers and regulators to maintain the cure at the proper temperature: The Rubber Manufacturers Assn. manual on the subject of curing, states:

"The 3 main factors in curing are temperature, time and pressure: Have your equipment heated to the proper temperature and keep it at that temperature during the cure. Cure the correct length of time for the temperature you are using. Maintain adequate pressure throughout the cure by using the proper thickness of camelback and the right spacer ring to get a snug fit in the matrix. The only sure way of knowing the exact temperature is to have a thermometer properly connected to the equipment. The steam gauge may show 50 pounds of pressure, but because of trapped air or water in the equipment the actual temperature may be considerably under 297 degrees F., the correct temperature for this steam pressure."

Boilers may be purchased to operate on either gas, gasoline, kerosene or fuel oil. According to one manufacturer, the most efficiency will be obtained with boilers equipped with a steam regulator, which holds the steam to a fixed pressure.

Another point mentioned in the engineer's standards for a first class shop is that there should be an adequate air supply with proper pressure regulators. Air is used in connection with the process for maintaining pressure in air bags and curing tubes. According to experts, it is possible to get a spongy tread due to lack of pressure, even though the air bag remains inflated to more than the recommended pressure throughout the cure. Instruction manuals all say that the best way to be sure a given pressure is maintained in an air bag throughout the cure is to have the air line equipped with a reducing valve and leave it connected to the air bag throughout the entire cure.

In checking air facilities for tire renewal shops, air pressure recommended for best results should be

For 4 and 6 ply tires..100 to 125 lbs.
For 8 ply tires.....150 to 175 lbs.
For 10 ply and up.....175 to 200 lbs.

The recommendation that the shop

High value from cheap crude

High grade crude is high-priced crude and not every refiner can get it—or needs it

But every refiner can have Dubbscracking —and ought to have it

Dubbscracking gets highest value from low-priced crude—from any crude you run—high yields of antiknock gasoline, special quality fuel oil and other wanted products

And newer processes developed or acquired by U. O. P. take up where Dubbscracking leaves off, producing special high value products never before produced commercially from petroleum —defense products

All these processes are available to all refiners through Universal

It will cost you nothing to find out about them—now

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
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should be equipped to do all kinds of tire repair work, if followed, would require the following equipment:

Vulcanizing equipment

Jacks

Small tire repair tools (This would include rollers, stitchers, valve tools, rasps, emery wheel, rubber sanding drum, goggles, shears, tire probe, tire prodding awl, brushes and other miscellaneous material.)

A pick-up truck, equipped with air tank, for road service, would probably also be considered when getting into the business "right."

The National Institute Retread Standards sets forth the following specifications which must be met in order to receive the Institute's seal of approval in the actual renewal process:

1. Tire body shall be sound in fabric and beads.
2. Tire body shall be thoroughly dried.
3. There shall be no separation between plies.
4. Tread portion shall be buffed to clean rubber.
5. Cement shall be of approved brand and grade.
6. Cement shall be thoroughly dry and free of dust.
7. Tread rubber shall be properly stitched to body.
8. Tread rubber shall be of approved brand and grade.
9. Cure shall be for full time recommended for rubber.
10. Guaranty of full satisfaction shall be made.

According to the experts in the field, the all-important thing, and around which the success or failure of the operation depends, is proper inspection of the tire to be worked on. The big tire renewal companies consider this even more important than doing the actual work. But when the operator is trained, he will be given explicit instructions and furnished with operating manuals, which if followed will keep that all important factor from becoming a problem.

The merchandising and selling of tire renewal service is no different than the sale of other merchandise and service.

One Michigan tire renewer used an 11 x 17-inch folded broadside in announcing the opening of his tire renewal station. Photographs of the station, a section of his shop, showing the molds, a tire in the process of being renewed, and some "before and after" illustrations of renewed tires were shown.

On the front of the broadside was an illustration of a tire, with the following copy:

"We extend a cordial invitation to you to visit our new, modern tire recapping plant. Here you will see the latest developments in tire rebuilding equipment blending with the finest materials available to produce the best in custom capping.

"Come in and let us show you through our plant—follow, step by step, from first inspection to finished product the "Best" way to renew the tread on smooth tires.

"Don't throw away the most valuable part of your tire—the casing. Give it new traction with a —Top Cap. You save, for our reputation backs our guarantee of satisfactory service."

On the inside of the broadside, the word "Announcing" in large red letters was followed by:

> "A new department and a new service that makes our station the most complete 'one stop' service.

"Improvements in tire construction, good roads almost everywhere, higher speed driving, more powerful motors, better brakes, more frequent starting and stopping have made our recaps possible. The casing or fabric structure of the modern tire, operated under these modern driving conditions—unless accidently injured or operated under unusual conditions — is sound and good for much additional service after the tread is worn smooth.

"Our process is a new development for scientifically replacing the worn tread—restoring the non-skid features and mileage.

"Our process takes nothing from your tire—it merely adds mileage and safety. It restores the tire to practically its original weight, tread width, non-skid depth and appearance.

"TRUCK TIRES need tread for traction and our service is the best way to get it. When your truck tires are worn smooth, bring them to us for an analysis of their suitability for a RENEWAL and an estimate of the costs."

In a block, with an especially wide border was a price list, as follows:

PASSENGER CAR SIZES

5.25-17	$5.25	6.50-16	$7.60
5.50-17	5.75	7.00-16	8.65
6.00-16	6.50	7.50-15	10.25
6.25-16	6.75	7.50-16	10.55

TRUCK TIRES

30 x 5	$8.90	34 x 7	$19.45
32 x 16 T.T.	11.65	36 x 8	27.20
32 x 6 H.D.	14.95	40 x 8	30.00
6.00-20	8.35	7.50-16	12.20
6.50-20	9.70	7.50-20	15.75
7.00-15	10.00	8.25-20	20.50
7.00-16	10.00	9.00-20	25.50
7.00-20	13.50	9.75-20	31.10
7.50-15	12.20	10.50-20	37.75
	10.50-24	$44.40	

In describing the illustration of the equipment, the following promises were made to the prospective customer:

Full original tread width is restored.

Original non-skid groove depth is supplied.

Original contour and weight closely maintained.

As a final thrust, in large copy was the appeal:

"Don't throw away the most valuable part of your tire—the casing, give it new traction with our top-cap."

In an early issue, NPN will tell how a successful oil marketer, who has been in the tire renewal field for several years, handles his profitable retreading business.

KEEP VEHICLES ON THE ROAD BY USING

TYRESOLES

In the National interest, vehicles must be kept on the road, and this means that the tyre replacement market is expanding rapidly. Meet this demand by Tyresoling every sound casing, and recommending your customers to remove their tyres for Tyresoling before they are worn down too far for treatment. A sound tyre can be Tyresoled once, twice, or even three times.

20 per cent. DISCOUNT and no price cutting

On charges for Tyresoling the genuine motor trader gets 20 per cent. discount, and the policy of Tyresoles Ltd. is to secure private car business through the garages wherever possible. Ask for full details. Tyresoles—the safest tyre reconditioning process—New tyre mileage at half cost.

Main Office and Works:

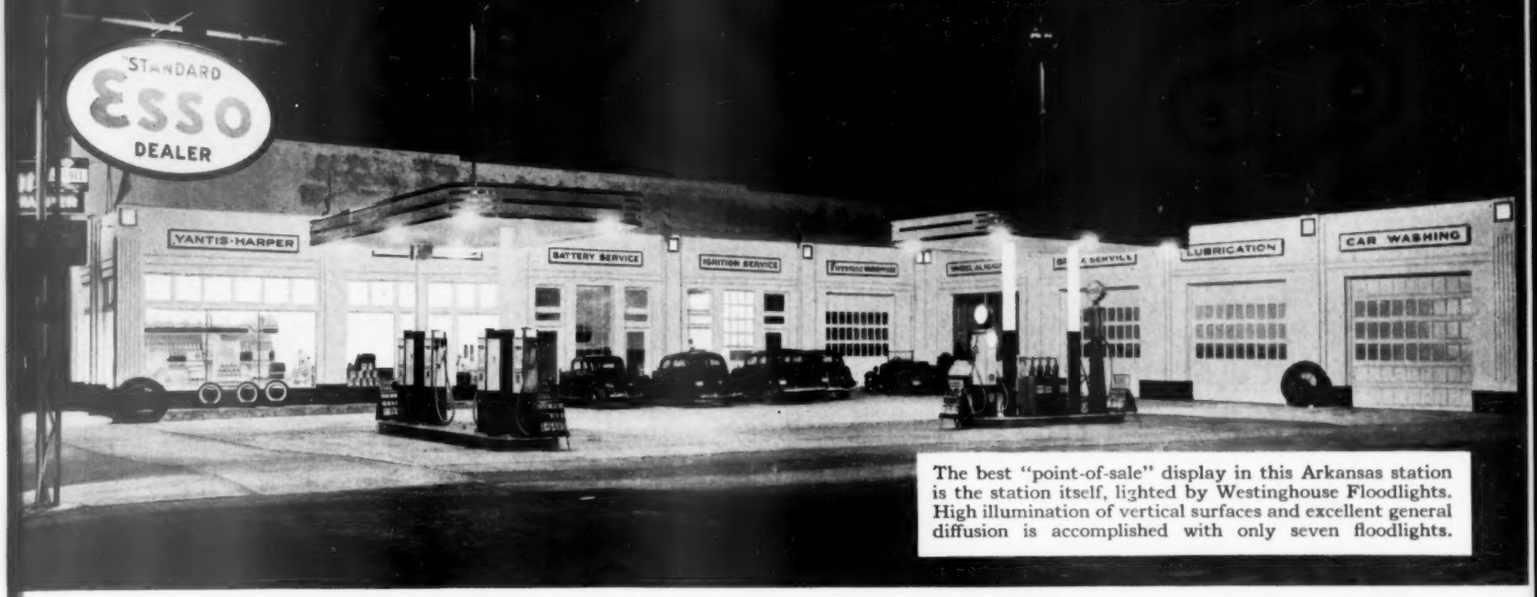
TYRESOLES LTD., WEMBLEY

'Phone: Wembley 3808 (6 lines)

In England, the war has not interrupted the tire renewal business, as this advertisement of a British concern operating 22 plants shows

A finished job. Claims are made that a properly renewed tire will provide more than 80% of the original tire mileage at 50% of new tire cost

HOW TO KEEP GALLONAGE FROM GOING DOWN WITH THE SUN



The best "point-of-sale" display in this Arkansas station is the station itself, lighted by Westinghouse Floodlights. High illumination of vertical surfaces and excellent general diffusion is accomplished with only seven floodlights.

When the sun goes down the attention value of wide driveways and attractive color schemes fades away. It takes lighting—good lighting—to window-dress a station at night. And there is ample evidence to prove that good lighting pays for itself in increased sales and profit.

When a new, modern floodlighting system was installed in a Chicago station, gasoline sales jumped from 100 to 600 gallons a day. Oil sales went up from 36 to 60 quarts a day and the number of cars serviced daily increased from 20 to 100. Modern floodlighting not only increased night business, but, because customers got the habit, occasional buyers were converted into "regulars."

Lighting is as important to service station sales as the location itself. Wherever you find big gallonage, you also find modern lighting.

In some cases, what it takes to give a station show-window lighting can be surprisingly inexpensive. For instance a single new floodlight on a 20-foot pole tripled business for a New Jersey operator.

Why not discuss your lighting problem with a Westinghouse Lighting Engineer. He will be glad to tell you how you can get the best results at the lowest cost. Just call the nearest Westinghouse office listed in your local telephone directory. There's no obligation, of course.

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.
EAST PITTSBURGH, PA.

Service Station Open Floodlight

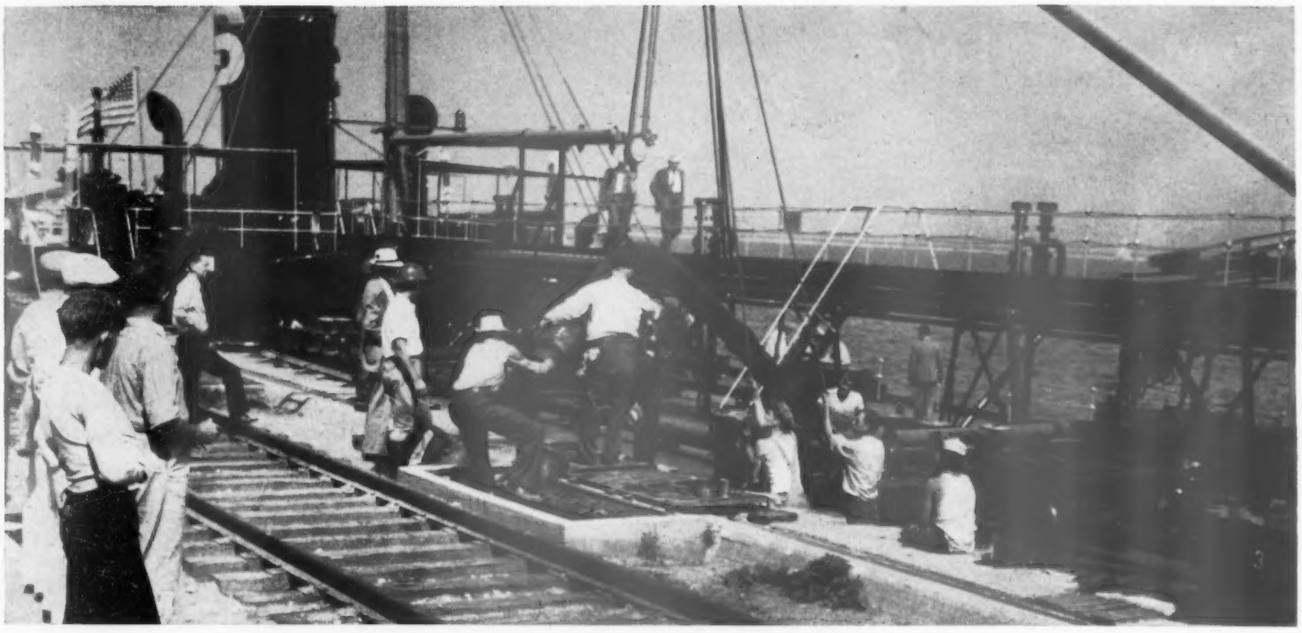
Available for High Intensity Mercury or Incandescent lamps, 16 and 20-inch size. Beam spread of 50 degrees and upward with Alzak reflector for concentrating a portion of light on distant areas. Protective hood cuts light at property border. Two-coat white porcelain enamel insures reflector efficiency. Cast iron brackets withstand high wind strains. Low installation and operating costs.

J-94471

WESTINGHOUSE

Westinghouse

LIGHTING EQUIPMENT



Coupling the 8-in. line to unload the 1,200,000 gals. the tanker Traverse City Socony brought on its first trip to the Milwaukee terminal

Fast Handling of Trucks Provided At New Great Lakes Terminal

NEWEST oil terminal on the Great Lakes is the combination marine storage and truck dispatching plant of Wadhams Division of Socony-Vacuum Oil Co. It is on a 10-acre site on Jones Island, on Lake Michigan, at Milwaukee.

The plant has storage space for over 8,000,000 gals. of gasoline, heating oils and kerosine. The company estimates that trucks both tank and transport will re-distribute about 60% of the products received by tanker or barge. It also receives and ships by tank car.

There will be an annual flow through the new terminal of 35,000,000 gals. of gasoline and 10,000,000 gals. of other products.

The marine terminal is composed of 7 tanks; combination office building and garage with facilities for accommodating 27 trucks; truck loading rack which can fill 7 trucks simultaneously and tank car loading rack and warehouse. The bulk plant has separate storage tanks for products normally received by tank car, also auxiliary storage for products normally received by vessel, to provide against the emergency of a long closed navigation period.

Floating roof, pressure type and conventional cone roof are the 3 tank designs used at the terminal. One floating roof tank holds 3,360,000 gals. and the second 840,000 gals., this storage being for the grade of gasoline having most rapid turnover, because it reduces pump-in and standing evaporation losses. Two storage tanks of 420,000 gals. capacity each operate under 2.5 lbs. pressure and are for storing gasoline with a less rapid turnover. Pumping losses are only partially reduced but standing losses can be reduced to a minimum, state the company's engineers. The 3 conventional cone roof tanks are of 1,890,000 gals. capacity, 1,050,000 and 210,000 gals. The 2 large tanks are for heating oils and the smaller one for kerosine. Earthen dikes around the tank vary in height from 5 to 7 ft. and are from 18 to 24 ft. wide at the base.

The tanker dock is 450 ft. long, of steel and reinforced concrete construction. Unloading lines are one 8-in. line for gasoline, one 8-in. for heating

Pump house at the Milwaukee terminal. At present 13 pumps are in service, both centrifugal and rotary type, ranging in capacity from 200 to 500 G.P.M. Additional provisions to transfer any product to any point in the plant are provided through a separate pump with individual stub lines coming through the pump house wall immediately ahead of the spare unit. By manually made flexible connections, it is possible to make any transfer operation desired

WITH THE GREATEST OF EASE!

THE NEW "EASY REACH" CALCO-METER

WHOEVER says the new extension-hose pumps are tiring on the arms . . . *has not tried the "EASY REACH" CALCO-METER!*

This amazing new pump is so easy to use, a child could operate it.

Its principle is so simple. A normal length of hose, hanging in a loop on the outside of the pump, takes care of all normal deliveries.

But when you have a hard-to-reach car . . . PRESTO!. . . out comes extra hose. . . and *so-o-o easily,* too. No tugging! No pulling!

When you're through, the hose retracts automatically—by means of a perfectly balanced counterweight. No springs, stuffing boxes or latches! Nothing to jam or get out of order!

The *"EASY REACH" CALCO-METER* is definitely Gilbarco's latest and greatest contribution to the industry . . . a streamlined pump of "million-gallon fame" with a *perfected* extension hose! Worth finding out about, isn't it?

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Springfield, Mass. • Toronto, Ontario, Canada

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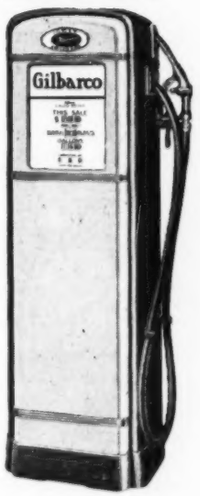
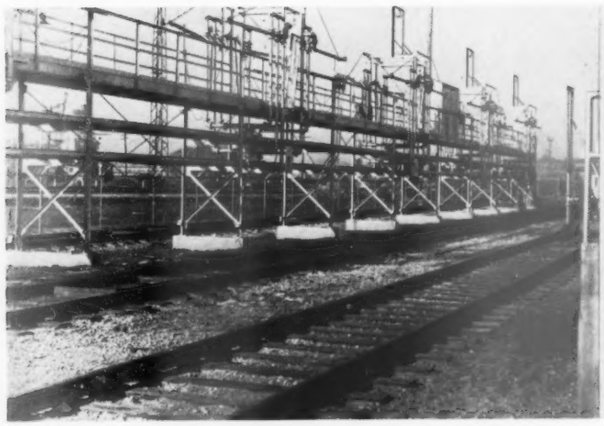
Please send me free descriptive folder on the new GILBARCO "EASY REACH" CALCO-METER.

*Name*_____

*Address*_____

*City & State*_____





LEFT, the modern all-steel tank car loading rack at the Milwaukee terminal provides for carrying the loading lines on supports underneath the platform and high enough not to interfere with workmen. A safety feature is the provision for pulling into an upright position, when not in use, the walkways from the platform to the top of the tank car, thus making them fill the gap where the platform railing is broken at loading points. RIGHT, seven trucks can load at once at the Milwaukee terminal through 6-in. lines. Meters are used to insure accuracy and there are 19 meters, of 200 and 250 G.P.M. capacity, at all points in the plant where trucks load

R. O. Baumgartner, superintendent, of building and equipment department of Wadhams Division, under whose direction the marine terminals at Milwaukee and 2 other points were built

J. M. McLaughlin, general manager of Wadhams Division shows the new Milwaukee terminal to Mayor Carl Zeidler

oils and one 6-in. for kerosine. Power for unloading vessels is from pumps on the boats. The company's tanker Traverse City Socony, capacity 1,200,000 gals., will normally serve the terminal. It unloads a cargo in approximately 7.5 hours, pumping at the rate of 2400 gals. per minute.

The truck loading rack is located in the middle of a wide area between the garage and office quarters and the warehouse. The layout provides that trucks entering the premises, or coming from the garage, stop at the rack to receive bulk products and continue to the warehouse to pick up package goods, and then leave the plant. All tank trucks are loaded through 6-in. lines, by centrifugal pumps of approximately 500 gals. per minute. Meters of 200 and 250 gals. per minute capacity are installed at all points where trucks are loaded. The truck loading lines are of the flexible hose type, raised and lowered by counter balances and pulleys. The space where the trucks stand at the rack is concrete, the rest of the yard has crushed stone base with hard surface top.

PUMP HOUSE

The pump house is located back of the truck rack in the turn-around area of the working yard. At present, 13 pumps are in service, 6 of 500 G. P. M. centrifugal units, one a 400 G. P. M. centrifugal unit, 3 are 300 G. P. M. rotary type units and 3 are 200 G. P. M. rotary units. There is provision to install a 14th pump. The pumps are powered by explosion proof electric motors.

"In order to promote safety and guard absolutely against mixing of products, there is no manifolding of

THE MAJOR'S CHOICE!
★ Over 40 Major Oil Companies feature RUGLYDE in their 1941 lubrication programs! 100% Safe for rubber parts requiring a penetrating lubricant. Safe on Rubber — Lubricates and preserves. Safe on Car Finish — Won't harm the finest lacquers. Safe on Service Man — Non-flammable, non-poisonous. Learn how we can serve your requirements in regular or special brand packages.
DOOR-EASE STAINLESS STICK LUBRICANT
for door dovetails, striker plates, rubber bumpers and seals, hood lacings, and other exposed friction surfaces.
Available in 8 oz. refillable applicator cans and gallon refills.
DAN, THE RUBBER MAN
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PENETRATING RUBBER LUBRICANT
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No safety device ever invented will take all the risk out of mountain climbing. Yet there is a way—a sure way—to remove every hazard from shipments in drums.

Tampering, leakage, substitution, pilferage, waste—all the dangers that lurk in the path of your product—are banished by Tri-Sure Closures. The Tri-Sure seal cannot be removed unless it is deliberately destroyed; the Tri-Sure plug is always held tightly in place; the Tri-Sure flange assures complete drainage.

Make *sure* that *your* product, *your* profits, *your* reputation are protected every minute your product is in transit. Equip every drum with Tri-Sure—and let every customer know that the same quality and quantity you ship is received. Write today for complete information on Tri-Sure Closures.

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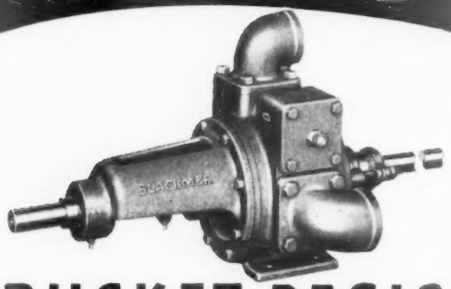

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Automatically takes up wear!

. . . . . which means capacity is maintained over many years of operation
No other truck pump has all these features.

- Smooth, quiet operation
- Built-in non-chatter relief valve
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- Triple bearings
- Bearings protected against pumpage
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- Capacities 50 and 90 GPM
- Bucket design
- New T type strainer

Standard units for power take-off, gasoline engine, or electric motor drive. These new features mean fast, dependable truck deliveries . . . . .more gallons per penny. Write for Bulletin 100 and full data.

BLACKMER PUMP COMPANY

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any of the lines in the pump house," states the company's engineering department, "except in one instance, where two 500 G. P. M. centrifugal pumps are connected to one 8-in. line to provide for rapid handling of the regular grade gasoline handled through the plant in the largest volume. The reason for manifolding these 2 pumps together on a common suction line from the storage tanks, is that 1 unit is used for loading trucks and the other for loading tank cars.

"In the event that there is a particularly heavy demand for this product on either the truck loading rack or the tank car rack, a valve arrangement makes it possible to deliver the discharge capacity of both pumps at either of these racks. Under normal operations, only 1 pump is necessary to supply each of these racks and during the greater part of the time only one pump is in operation. Therefore, with our arrangement, only 1 unit is in operation most of the time, resulting in lower operating cost and avoiding the necessity of operating large capacity pumps and discharging only a small portion of that capacity. The arrangement also has the additional advantage of maintaining operation without interruption in the event that the pumping equipment provided for handling our principal product, should be taken down for repairs.

"The fact that there is no manifolding does not mean that the plant is not flexible, so as to provide for the transferring of any product to any point in the plant. This convenience has been arranged for through the provision of a separate pump with individual stub lines, coming through the pump house wall immediately ahead of the spare unit. By a manually made flexible connection, it is possible to withdraw from any tank through the spare pump and return to any tank or other outlet on the premises. The spare unit is of the rotary type, so as to provide for pumping out tank bottoms, in which service the centrifugal pump might lose its prime and result in damage to the pump."

TANK CAR LOADING RACK

Of modern all-steel construction, with 5 loading spots on each side, loading lines are carried underneath the platform, on steel cross-pieces attached to the supports for the platform. They are high enough not to interfere with the movement of a workman underneath the platform.

The walkways from the platform are hinged at the platform end and are long enough, when lowered, to reach to the platform at the side of the tank car dome when the car is spotted. When the walkway is not in use, it is out of the way and also closes the gap in the platform railing at the loading point. Pumping operations are by remote control from a small building on the platform.

A feature of design of the warehouse is a battery of 4000-gal. lubri-

Both lead response and inhibitor response are improved by the

SHELL SOLUTIZER PROCESS

for sweetening gasolines

HERE FOR THE FIRST TIME is a commercially proven method that sweetens a gasoline *by removing the mercaptans entirely*.*

Thus, not only is odor eliminated and sulfur content reduced in one operation, but even more important, lead response and inhibitor response are improved and the clear octane number is usually raised at the same time.

These advantages sum up into worth-while money savings. Full-scale operation at Shell Oil Company's Wood River refinery indicates a surprisingly short pay-out time on equipment. For information write to Shell Development Company, 100 Bush Street, San Francisco.

*(to *negative* doctor test)

SHELL DEVELOPMENT COMPANY

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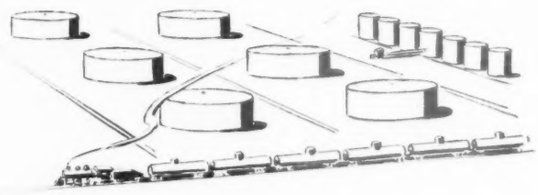

But the dividends are

End your shipping worries, *permanently*. Store and distribute your bulk liquids through General American Terminals. Get speed with safety—safety with economy—economy with all the privacy and reliable custodianship of your own plant, *without a penny's investment by you!* Handling bulk liquids is our specialty. Check the 7 exclusive benefits of General American Service—and start saving *now*.

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6. SPEED WITH SAFETY. Day and night crews, complete facilities, eliminate all shipping delays.
7. WORLD'S LARGEST TANK CAR FLEET. One car or hundreds, wherever and whenever needed.

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GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope, La. and Westwego, La., (Port of New Orleans)
Corpus Christi, Texas
Carteret, N. J. (Port of New York) Galena Park, Texas (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

cating oil tanks, mounted 10 ft. above the warehouse floor. Products can be pumped into these tanks from compartment tank cars spotted on a siding immediately alongside the warehouse, through a rotary pump located inside the warehouse wall. Bulk motor oil is also delivered to the warehouse by trucks, which are equipped with power unloaders to load the oil into the storage tanks. From the battery of tanks, the lubricating oil is fed by gravity through a group of lines to a point conveniently arranged for packaging and located handy to the truck shipping department.

Storage for 28 trucks is provided, with the floor pitched from front to rear and a drainage trough at the rear wall. High pressure hose connections are available along the rear wall, spaced the width of 2 trucks apart. Water supply to these taps is provided by a central car washer installation. Thus trucks can be washed without being moved to special wash racks.

Fire-fighting equipment consists of an 8-in. water main entering the property under city water pressure. The main is connected to a 1000-G. P. M. centrifugal type pump designed to boost the pressure to the 100 lbs. required to operate the foam generators. The pump is driven by a 75 H. P. electric motor and the piping and valves are arranged to by-pass the pump, so that, in the event of current failure putting the pump out of action, city fire department apparatus can be connected to a hydrant immediately outside the pump house and in this way provide the necessary increase in water pressure.

From this point, the water is distributed to 3 foam generators, which in turn discharge their individual or combined capacity into general lines that lead to the main storage tanks and to hydrants located at strategic points over the plant.

The office portion of the combination garage and office building is arranged to accommodate a force of 12. Lighting is by fluorescent fixtures. There are lockers for 45 truck drivers and 6 plant employes. A shower bath is provided for general convenience, as well as for emergency purposes when an employe comes in contact with leaded gasoline and must bathe and have an immediate change of clothes. A meeting room, with tables and chairs, is provided as a recreation and lunch room for drivers and plant workers.

The opening of the Milwaukee marine terminal completed a lake terminal building program started by Wadhams Division of Socony-Vacuum in 1936. In that year a plant was installed at Green Bay and a second at La Crosse, Wis., in 1939. J. M. McLaughlin is manager of the Wadhams Division of Socony-Vacuum. R. O. Baumgartner is superintendent of the building and equipment department, under whose supervision the 3 lake terminals were built.

MARKETS

Mid-Continent

TULSA, July 19.—Advance in price of Grade 26-70 natural gasoline featured Mid-Continent markets the past week. Sales of "several cars" at 3.25c, FOB Breckenridge, and at 3.625c, FOB Group 3, were reported, 0.25c higher than last reported sales prices. At week's end, 4 sellers reported quoting 3.625c, FOB Group 3; five reported quoting 3.25c, FOB Breckenridge.

Supplies of refined gasoline continued "tight" and demand heavy, with several refiners said to be in market as buyers. Supplies of third grade were said to be especially "tight" account of harvest demand.

An Oklahoma refiner said he had offered other refiners 6c for 72-74 oct., adding he had been "unable to buy where I can use it." Another Oklahoma refiner reported buying daily all grades of gasoline to meet commitments, as well as kerosine, range oil, and No. 1 p.w. Several Mid-Continent refiners said they had made inter-refinery quotations for gasoline based on "low of market, date of shipment."

Demand for lubes continued heavy, according to reports. Inquiries from buyers "seeking permanent source of supply" were reported by one refiner who said "spot buying of large quantities of lubes is difficult; we do not have sufficient material available to supply new business in less than 60 days." Another refiner said domestic shipments of blended oils were "extremely heavy, especially with no campaign being waged." Substantial quantities of bright stock were said to be moving to Pacific coast by tank car.

Gulf

NEW YORK, July 19—Some fluctuation in gasoline prices was reported by refiners at the Gulf following OPACS' request late the past week that no transactions be effected "at price in excess of 6c" for min. 80 oct. (research) and that "present differentials" be maintained for gasolines of lower grades.

Low quotations reported for leaded 72-74 oct. dipped 0.125c to 5.875c July 17 but were back to 6c July 18 when refiner who had lowered his quotation the previous day said he was now offering "77 oct. ASTM, 375 e.p., equivalent to 79 research" at 6c. Quotations for 70 oct. unleaded were off 0.25c to 6c at the end of the week, having earlier advanced to 6.25c, according to reports. Quotations reported for the min. 80 oct. grade were unchanged at 6.25 to 6.5c.

Sale early in the week of 80,000 bbls. 10%, of min. 80 oct. (research) was reported at 6.125c, with lifting set for last half of August, coastwise. Refiner who reported the sale said he was now sold up until September. Three inquiries for this grade totaling 255,000 bbls. were reported in the market, all for July-August lifting, coastwise.

Sale of 85,000 bbls. of 75 oct. (ASTM), 400 e. p., at 6.125c for July lifting, coastwise, also was reported. Two refiners reported "cargo" inquiries for 75 oct. for August, coastwise, on one of which buyer was reported offering 6.25c.

Cargo inquiries for 80,000 bbls. each of 81 oct. (research) and 76 oct. (ASTM), 400 e. p., were reported, both for August lifting, coastwise. Buyer in first instance was said to have offered 6.375 to 6.5c, and in the second, 6.125c.

Pennsylvania

CLEVELAND, July 19.—A 1c advance on 25 pour test neutral oil prices featured western Penna. market the past week. Market for all products continued "tight", refiners said. Only small lots were being offered for open spot sale, and then mainly to regular customers, according to reports.

Quotations reported by refiners for 25 p.t. neutrals at the end of the week ranged from 32 to 40c for 200 vis. oil, 30 to 36c for 150 vis. All neutral quotations were reported by refiners as for limited sale to regular jobbers and compounder customers. Sale of 1 car 200 vis. oil at 40c was reported by one refiner. Purchase of 10 cars at 40c was reported by large buyer.

Sale of 36-40 fuel oil at 6.25c was reported by an upper field refiner, up 0.25c from last reported sale price. No quotations for 36-40 were reported by other upper field refiners. "We're cracking every drop we made," commented one refiner.

California

LOS ANGELES, July 19—Low quotations for cargoes of 390 e. p. blend, 68 octane (ASTM) gasoline advanced 0.125c the past week on Pacific Coast export markets, according to reports received from refiners. Quotations reported for this grade ranged from 5.875 to 6.25c.

Buyers representing Pacific foreign interests were said to be chiefly interested in special blends that could not be supplied from regular refinery runs, for which they were prepared to pay from 0.5 to 0.75c per gal. above comparable regular grades. Minimum 80 octane (Research) gasoline was reported quoted at 6.25c in cargo lots.

At many independent refineries in the Los Angeles Basin, rack prices of third grade gasoline were reported unchanged at 6c. Leaded and Ethyl grades were offered at 6.5 and 7.5c, respectively, according to reports.

Atlantic Coast

NEW YORK, July 19—Higher prices for min. 80 oct. (research) gasoline at New York were reported early the past week, the close of which brought report that OPACS will request New York harbor suppliers to reduce the price of that grade to 7c, effective Monday, July 21.

Local oil men expressed surprise at the proposed request, asking how a 7c price could be set at New York when the 6c "top" for min. 80 oct. requested by Price Administrator Henderson of Gulf refiners this week and the 50c boat rate alone would come to more than that, without any allowance for other operating costs.

Advance of 0.5c to 8.5c in low quotations for both tank car and barge lots of 80 research at New York followed withdrawal of his quotations by supplier who had been posting 8c. One harbor supplier reported sales totaling 5000 bbls. of that grade to independent jobbers at 8.5c.

A Philadelphia supplier reported 0.05c advance in his quotation for kerosine to 5.8c, but low of price range at that point was reported unchanged at 5.25c.

Heavy demand for most products was reported by the trade. Some suppliers said they were "rationing" supplies even to their regular customers.

Mid-Western

CHICAGO, July 19—Quotations for most part were reported unchanged the past week by refiners and tank car marketers in Chicago.

Demand for gasoline against contracts continued heavy but several suppliers indicated a "slowing up" of new inquiries. Tank cars were said to be "scarce." A good summer volume of fuel oil business was reported by most sellers.

Open spot sales reported by 3 marketers during the week were: 1 car 80-82 oct. Ethyl gasoline at 6.5c; 13 cars 72-74 oct. at 5.875c; 2 cars 60 oct. & below at 5.125c; 4 cars 41-43 kerosine, 2 cars at 3.75c, and 2 cars at 4c; and 2 cars of No. 3 fuel at 3.375c, FOB Group 3.

Group 3 quotations reported by refiners ranged from 6 to 6.375c for 72-74 oct., 5.2 to 5.625c for 60 oct. & below, one refiner reported quoting 7.3c for 80-82 oct., 4.375 to 4.75c for 41-43 kerosine, and 3.25 to 3.5 for No. 3 fuel.

Group 3 quotations reported by marketers ranged from 6.125 to 6.5c for 80-82 oct., 5.75 to 6c for 72-74 oct., 4.625 to 5.125c for 60 oct. & below, 3.625 to 4.125c for 41-43 kerosine, and 2.75 to 3.375c for No. 3 Fuel.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

SPECIAL CONDITIONS ON PRICES—Due to great demand, refiners in nearly all territories and on the most desired products are quoting prices and limiting sales to regular customers only, with varying definitions for such customers. Refiners report refusing to accept higher prices bid by new and casual customers. OILGRAM in its tables is showing only actual sales prices and prices asked by refiners. Bid prices, that do not become sales, are, when learned, reported in the news leads.

Summary of Daily Gasoline Prices (July 15 to July 21)

U. S. Motor, (ASTM octane)	Monday July 21	Friday July 18	Thursday July 17	Wednesday July 16	Tuesday July 15
80-82 octane Ethyl:					
Oklahoma	6.5 – 7.25	6.5 – 7.25	6.5 – 7.25	6.5 – 7.25	6.5 – 7.25
Mid-Western (Group 3 basis)	7.3 (1)	7.3 (1)	7.3 (1)	7.3 (1)	7.3 (1)
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7 (2)	7 (2)	7 (2)	7 (2)	7 (2)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7.125 (1)	7.125 (1)	7.125 (1)	7.125 (1)	7.125 (1)
72-74 octane:					
Oklahoma	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375
Mid-Western (Group 3 basis)	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375	5.875– 6.375
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6 –6.125 (2)	6 –6.125 (2)	6 –6.125 (2)	6 –6.125 (2)	6 –6.125 (2)
63-66 octane:					
Oklahoma	5.625– 6	5.625– 5.6	5.625– 6	5.625– 6	5.625– 6
Mid-Western (Group 3 basis)	5.6 – 6	5.6 – 6	5.6 – 6	5.6 – 6	5.6 – 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625– 6	5.625– 6	5.625– 6	5.625– 6	5.5 – 6
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625–5.75 (2)	5.625–5.75 (2)	5.625–5.75 (2)	5.625–5.75 (2)	5.625–5.75 (2)
60 octane & below:					
Oklahoma	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625
Mid-Western (Group 3 basis)	5.2 – 5.625	5.2 – 5.625	5.2 – 5.625	5.2 – 5.625	5.2 – 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.125– 5.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25–5.375 (2)	5.25–5.375 (2)	5.25–5.375 (2)	5.25–5.375 (2)	5.25–5.375 (2)
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	8 – 8.5	8 – 8.5	8 – 8.5	8 – 8.5	8 – 8.5
New York harbor, barges	7.75 – 8.5	7.75 – 8.5	7.75 – 8.5	7.75 – 8.5	7.75 – 8.5
Philadelphia district	8	8	8	8	8
Baltimore district	8 (1)	8 (1)	8 (1)	8 (1)	8 (1)
Motor Gasoline:					
Western Penna. Bradford-Warren:					
Min. 80 Oct. ('39 Research)	8 (2)	8 (2)	8 (2)	8 (2)	8 (2)
74-76 Oct. (ASTM)	7.75 (1)	7.75 (1)	7.75 (1)	7.75 (1)	7.75 (1)
74-76 Oct. (L-3)	7.5–7.75 (2)	7.5–7.75 (2)	7.5 –7.75 (2)	7.5 –7.75 (2)	7.5–7.75 (2)
Western Penna. Other Districts:					
Min. 80 Oct. ('39 Research)	8 (1)	8 (1)	8 (1)	8 (1)	8 (1)
74-76 Oct. (ASTM)	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
74-76 Oct. (L-3)	7.25–7.5 (2)	7.25–7.5 (2)	7.25–7.5 (2)	7.25–7.5 (2)	7.25–7.5 (2)

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	July 21	July 14
OKLAHOMA		
80-82 oct. Ethyl	6.5 – 7.25	6.5 – 7.25
72-74 oct.	6 – 6.375	6 – 6.375
63-66 oct.	5.625– 6	5.625– 6
60 oct. & below	5.25 – 5.625	5.25 – 5.625
60-62 400 e.p.	5.25 (1)	5.25 (1)
MID-WESTERN (Group 3 basis)		
80-82 oct. Ethyl	7.3 (1)	7.3 (1)
72-74 oct.	6 – 6.375	6 – 6.375
63-66 oct.	5.6 – 6	5.6 – 6
60 oct. & below	5.2 – 5.625	5.2 – 5.625
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	7 (2)	7 (2)
72-74 oct.	6 – 6.375	5.875– 6.375
63-66 oct.	5.625– 6	5.5 – 6
60 oct. & below	5.25 – 5.625	5.125– 5.625
60-62, 400 e.p.	5.375–5.5 (1)	5.25–5.5 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	7.125 (1)	7.125 (1)
72-74 oct.	6 –6.125 (2)	6 –6.125 (2)
63-66 oct.	5.625–5.75 (2)	5.625–5.75 (2)
60 oct. & below	5.25–5.375 (2)	5.25–5.375 (2)
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	7 –7.125 (2)	7 (2)
72-74 oct.	6 –6.125 (2)	6 (2)
67-69 oct.	5.5–5.625 (2)	5.5 (2)
62 oct. & below	5.25–5.375 (2)	5.25 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	5.25–5.5 (2)	5.125–5.5 (2)
60-62, 400 e.p.	5.375–5.625 (1)	5.375–5.625 (1)

Prices Effective	July 21	July 14
KANSAS (For Kansas destinations only)		
80-82 oct. Ethyl	7.4 (1)	7.4 (1)
72-74 oct.	6.2 – 6.3	6.2 – 6.3
63-66 oct.	5.8 – 5.9	5.8 – 5.9
60 oct. & below	5.4 – 5.5	5.4 – 5.5
ARK. (For shipment to Ark. & La.)		
72-74 oct.	6 (1)	6 (1)
70-72 oct.	5.875 (1)	5.875 (1)
60 oct. & below	5.5 (1)	5.5 (1)
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
Min. 80 oct. ('39 research)	8 (2)	8 (2)
74-76 oct. (ASTM)	7.75 (1)	7.75 (1)
74-76 oct. (L-3)	7.5–7.75 (2)	7.5–7.75 (2)
Other districts:		
Min. 80 oct. ('39 research)	8 (1)	8 (1)
74-76 oct. (ASTM)	7.25 – 7.75	7.25 – 7.75
74-76 oct. (L-3)	7.25–7.5 (2)	7.25–7.5 (2)
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group)		
U.S. Motor: (Oct. L-3):		
72-74 oct.	8.5	8.5
67-69 oct.	7.7 – 7.75	7.7 – 7.75
Str. run gasoline, excluding Detroit shpt.	6 – 6.25	6 – 6.25
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	7 – 7.25	7 – 7.25
54-58 grav., for outside state shipment	6 – 6.75	6 – 6.75
54-58 grav., for instate shipment	5.75 – 6.75	5.75 – 6.75

Kerosine, Gas & Fuel Oils

Prices Effective	July 21	July 14
OKLAHOMA		
41-43 grav. w.w.	4.375– 4.75	4.375– 4.75
42-44 grav., w.w.	4.5 – 4.875	4.5 – 4.875
Range Oil	4 – 4.375	4 – 4.375
No. 1 P.W.	3.875– 4.125	3.875– 4.125
No. 1 straw	3.5–4.25 (2)	3.5–4.25 (2)
No. 2 straw	3.5 – 3.75	3.5 – 3.75
U.G.I. gas oil	3.5 (1)	3.5 (1)
No. 3 fuel	3.375– 3.625	3.375– 3.625
No. 6 fuel	$0.83–$0.85 (2)	$0.80–$0.85 (2)
14-16 fuel	$0.95 (2)	$0.95 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375– 4.75	4.375– 4.75
42-44 grav. w.w.	4.5 – 4.875	4.5 – 4.875
Range Oil	4 (1)	4 (1)
No. 1 p.w.	3.75 – 4.125	3.75 – 4.125
No. 2 straw	3.375– 3.6	3.375– 3.6
No. 3	3.25 – 3.5	3.25 – 3.5
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.85–$0.875 (2)	$0.85–$0.875 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4 – 4.875	4 – 4.875
No. 1 P.W.	4.125–4.375 (1)	4.125–4.375 (1)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	4.75 (2)	4.75 – 5 (2)
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	4.6 (1)	4.6 (1)
42-44 gravity w.w.	4.7 – 4.875	4.7 – 4.875
No. 1 p.w.	4.1 –4.3 (2)	4.1 –4.3 (2)
No. 6 fuel	$0.85–$0.925 (2)	$0.85–$0.925 (2)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

SPECIAL CONDITIONS ON PRICES—Due to great demand, refiners in nearly all territories and on the most desired products are quoting prices and limiting sales to regular customers only, with varying definitions for such customers. Refiners report refusing to accept higher prices bid by new and casual customers. OILGRAM in its tables is showing only actual sales prices and prices asked by refiners. Bid prices, that do not become sales, are, when learned, reported in the news leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	July 21	July 14
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.375 (1)	3.375 (1)
No. 3 fuel	3.375 (1)	3.375 (1)
Tractor fuel, for shpt. to Ark. points only	5.125 (1)	5.125 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6 – 6.25	6 – 6.25
46 grav. w.w.	6.125 (1)	6.125 (1)
No. 1 fuel	6.25 (1)	6.25 (1)
No. 2 "	5.875–6.25 (2)	5.875–6.25 (2)
No. 3 "	6.25 (1)	6.25 (1)
36-40 gravity	6.25 (1)	6 (1)
Other districts:		
45 grav. w.w.	5.75 – 6	5.75 – 6
46 grav. w.w.	5.875– 6.125	5.75 – 6.125
47 grav. w.w.	5.875– 6.25	5.875– 6.25
No. 1 fuel	5.75 – 6	5.75 – 6
No. 2 "	5.75 – 6	5.75 – 6
No. 3 "	5.75 – 6	5.75 – 6
36-40 grav., Pittsburgh dist. prices excluded	5.75 – 6	5.75 – 6
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	6 – 6.375	6 – 6.375
P.W. Distillate	5.5 – 6	5.5 – 6
No. 3 gas oil, Straw	5 – 5.8	5 – 5.8
U.G.I. gas oil	4.5 – 4.875	4.5 – 4.875
Fuel Oils (Vis. at 100).		
300-500 Vis.	4 – 4.25 (2)	4 – 4.25 (2)
100-300 Vis.	4.5 (1)	4.5 (1)
OHIO (S. O. Ohio quotations for statewide delivery)		
Kerosine	6.5	6.5
CALIFORNIA		
40-43 grav. w.w.	4.5 – 6	4.5 – 6
San Joaquin Valley:		
Heavy fuel	$0.75 –$0.85	$0.75 –$0.85
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 4
Los Angeles:		
Heavy fuel	$0.65 –$0.75	$0.65 –$0.75
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 4
San Francisco:		
Heavy fuel	$0.85	$0.85
Light fuel	$0.90	$0.90
Diesel fuel	4.5	4.5
Stove dist.	4.5	4.5

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices were given by Penna. refiners as their quotations to jobbers & compounders only. Neutral prices were reported by refiners as for limited sales to their regular customers only.

Viscous Neutrals—No. 3 col. Vis. at 70°F		
200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	39 (1)	39 (1)
10 p.t.	38.5 (1)	38.5 (1)
15 p.t.	37.5 (1)	37.5 (1)
25 p.t.	33-40	32-38
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	37.5 (1)	37.5 (1)
10 p.t.	36.5 (1)	36.5 (1)
15 p.t.	35.5 (1)	35.5 (1)
25 p.t.	31-36	30-36
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	27.5 (1)	27.5 (1)
15 p.t.	26.5 (1)	26.5 (1)
25 p.t.	24-25	24-25
600 S.R. filterable	13-14.5	13-14
650 S.R.	13.5–15	13.5–15
600 fl.	14-16	14-16
630 fl.	15-17	15-17
MID-CONTINENT (F. o. b. Tulsa)		
Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)		
Pale Oils: Vis. Color		
60- 85—No. 2	6.5 – 7.25	6.5 – 7.25
86-110—No. 2	7 – 7.75	6.75 – 7.75
150—No. 3	11.5 –11.75	11.5 –11.75
180—No. 3	12	12
200—No. 3	12 –12.5	12 –12.5
250—No. 3	13 –13.5	13 –13.5
280—No. 3	14 –15.25	14 –15.25
300—No. 3	15 –15.75	15 –15.75

Lubricating Oils (Cont'd)

Prices Effective	July 21	July 14
Red Oils:		
180—No. 5	12 (1)	12 (1)
200—No. 5	12–12.5 (2)	12–12.5 (2)
280—No. 5	14.5 (1)	14.5 (1)
300—No. 5	14.5–15.5	14.5–15.5

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	24 (1)	24 (1)
150-160 Vis. D:		
0 to 10 p.p.	20–21	20–21
10 to 25 p.p.	19.5–20.5	19.5–20.5
25 to 40 p.p.	19 (1)	19 (1)
150-160 vis. E	19–19.5	19–19.5
120 Vis. D:		
0 to 10 p.p.	19–19.5	19–19.5
600 S.R. Dark Green	8–8.5 (2)	8– 8.5 (2)
600 S.R. Olive Green	9–10	9–10
631 S.R.	16.5 (1)	16.5 (1)
Black Oil	4–5.5 (2)	4–5.5 (2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	6.5	5.5-6.5
200 No. 2-3	8.75	7.75–8.75
300 No. 2-3	9.25	8.25–9.25
500 No. 2½-3½	10	9 –10
750 No. 3-4	10.25	9.25–10.25
1200 No. 3-4	10.375	9.375–10.375
2000 No. 4	10.5	10.5
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	7.75 – 8.75
300 No. 5-6	9.25	8.25 – 9.25
500 No. 5-6	10	9-10
750 No. 5-6	10.25	9.25–10.25
1200 No. 5-6	10.375	9.375–10.375
2000 No. 5-6	10.5–11.5	9.5–10.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils Vis. Color		
60-85—No. 2	8.25 (1)	8.25 (1)
86-110—No. 2	8.25 (1)	8.25 (1)
150—No. 3	12.6 (1)	12.6 (1)
180—No. 3	12.5 (1)	12.5 (1)
200—No. 3	12.5 (1)	12.5 (1)
250—No. 3	13.5 (1)	13.5 (1)
Red Oils:		
180—No. 5	12.5 (1)	12.5 (1)
200—No. 5	12.5 (1)	12.5 (1)
250—No. 5	13.5 (1)	13.5 (1)
280—No. 5	14.5 (1)	14.5 (1)
300—No. 5	15 (1)	15 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	10.5 (1)	10.5 (1)
160	11.5 (1)	11.5 (1)
200	12.5 (1)	12.5 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	21	21
15 to 25 p.p.	20.5 (1)	20.5 (1)
30 to 40 p.p.	18.9 (1)	18.9 (1)
E filtered Cyl. Stock	14.5 (1)	14.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	3.625 (Sales)	3.375 (Sales)
FOB BRECKENRIDGE		
Grade 26-70	3.25 (Qtns.)	3.25 (Qtns.)
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	4.375– 4.625	4.375– 4.625

Naphtha and Solvent

Prices Effective	July 21	July 14
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA		
Untreated naphtha	6.5 – 6.75	6.5 – 6.75
Stoddard solvent	6.75 – 7	6.75 – 7
OHIO (S. O. Ohio quotations for statewide delivery):		
V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:		
WESTERN PENNA. (Bbls. C.L., N. Y.)		
122-124 A.m.p.	5–5.25	5–5.25
124-126 A.m.p.	5.5–5	5.5–5
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-6 AMP	5.25 (1)	5.25 (1)
131-3 AMP	5.375 (1)	5.375 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods: add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.6	5.6
125-127	5.6	5.6
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.4	6.4
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)

Snow White	5.625–7	5.625–7
Lily White	4.875–6	4.875–6
Cream White	4.125–5	4.125–5
Light Amber	3.125–3.875	3.125–3.875
Amber	2.875–3.5	2.875–3.5
Red	2.875–3.25	2.875–3.25

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline Kerosine		Distillate-Gas Oil-Fuel Oil	
	Cents per Cwt.	Cents per gal. 6.6 lbs.	Cents per Cwt.	Cents per gal. 7.4 lbs.
Chicago, Ill.	36	2.376	32	2.368
Decatur, Ill.	32	2.112	31	2.294
Joliet, Ill.	36	2.376	32	2.368
Peoria, Ill.	33	2.178	31	2.294
Quincy, Ill.	31	2.046	29	2.146
Indianapolis, Ind.	38	2.508	39	2.886
Evansville, Ind.	35	2.310	37	2.738
South Bend, Ind.	44	2.904	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Grand Rapids, Mich.	55	3.630	**50	**3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	41	2.706	41	3.034
Milwaukee, Wis.	39	2.574	34.5	2.553
LaCrosse, Wis.	37	2.442	37	2.738
Minneapolis-St. Paul	37	2.442	37	2.738
Duluth, Minn.	41	2.706	41.5	3.071
Mankato, Minn.	37	2.442	37	2.738
Des Moines, Ia.	29	1.914	29	2.146
Davenport, Ia.	33	2.178	31	2.294
Mason City, Ia.	34	2.244	33.5	2.479
St. Louis, Mo.	29	1.914	26.5	1.961
Kansas City, Mo.	22	1.452	22.5	1.665
St. Joseph, Mo.	25	1.650	22.5	1.665
Fargo, N. D.	51	3.366	50.5	3.737
Huron, S. D.	43	2.828	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

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Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)—Prices Effective July 21

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	8.5 – 9	8 – 8.5	8 –8.25 (2)
N. Y. Harb., barges	8.5	7.75 – 8.5	7.75– 8 (2)
Albany	8.1	....	....
Philadelphia	8 – 8.7	8	8 – 8.2
Baltimore	7.75 – 8	8 (1)	8 (1)
Norfolk	7.5 – 8	7.25 – 8 (2)	7.25 – 8
Wilmington, N. C.	7.5 – 7.8	7.25 (1)	7.25–7.5 (2)
Charleston	7.6 –7.8 (2)	....	6.9 –7.1 (1)
Savannah	7.37 – 7.7	7.25 (1)	7.1 –7.3 (2)
Jacksonville	7 – 7.7	6.75–7.375 (2)	7.1 –7.3 (2)
Miami	7.3 –7.5 (2)	....	6.8 – 7 (1)
Tampa	7 – 7.5	6.75 (1)	6.6 –6.8 (1)
Pensacola	7 –7.2 (1)	....	6.6 –6.8 (1)
Mobile	6.87 –7.2 (2)	....	6.6 –6.8 (1)
Portland	8.3 – 9.4	8.6 (1)	....
Boston	8.2 – 9	8.5 (2)	8.5 (1)
Providence	8.2 – 9.1	8.5 (1)	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.2 – 5.5	4.9 – 5.25	4.9	$1.65 –$1.75	$1.35 –$1.45
N. Y. Harb., barges	5.1 – 5.5	4.8 – 5.25	4.8	....	....
Albany	5.4	5	5 (2)	$1.95 (1)	$1.55 (1)
Philadelphia	5.25 – 5.8	5 – 5.25	5	$1.57	$1.35
Baltimore	5.25	5	5	$1.57 (1)	$1.35
Norfolk	5.25 – 5.5	5 – 5.25	5 (1)	....	$1.35 (1)
Wilmington, N. C.	5.25 – 5.5	5 – 5.25	....	....	....
Charleston	5.25 – 5.5	5 (1)	....	....	$1.30 (1)
Savannah	5.25 – 5.5	....	....	....	$1.30 (1)
Jacksonville	5 – 5.5	5 (1)	5 (1)	....	$1.30 (1)
Miami	5.25–5.5 (2)	....	....	....	....
Tampa	5 – 5.5	5 (1)	....	....	$1.25 (1)
Pensacola	4.8 – 5 (1)	....	....	....	....
Mobile	4.75 – 5	....	....	....	....
Portland	5.4	5	5 (1)	$1.95 (1)	$1.35 –$1.55
Boston	5.3	4.9	4.9 (1)	$1.65 (2)	$1.35
Providence	5.3	4.9	4.9 (2)	$1.60 –$1.65	$1.35

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.35 –$1.45	$2.00	5 (1)	5 (1)
Albany	$1.55 (1)	$2.20 (1)	5 (1)	5.2 (1)
Philadelphia	$1.35	$2.00 –$2.10	....	....
Baltimore	$1.35	$2.00	....	....
Norfolk	$1.35 (2)	$2.00 (2)	....	....
Charleston	$1.30 (2)	$2.00–$2.10 (2)	....	....
Savannah	$1.30 (1)	$1.99 (1)	....	....
Jacksonville	$1.30 (2)	$1.99 –$2.10	....	....
Tampa	$1.25 (2)	$1.99 –$2.10	....	....
Portland	$1.35 –$1.55	$2.10	5 (1)	5.1 (1)
Boston	$1.35	$2.00	4.9 (1)	5 (1)
Providence	$1.35	$2.00	4.9 (1)	5 (1)

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	July 21	July 14
Bright stock:		
Light, 25 p.t.	No price	No price
Neutral oil:		
150 3 color, 25 p.t.	No price	No price
600 s.r., unfilt	No price	No price
650 s.r., unfilt	No price	No price
600 fl. s.r.	No price	No price
630 fl., s.r.	No price	No price

Wax

(Melting points are AMP. 3° higher than EMP. Export prices FAS c.l. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)

Prices Effective July 21

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	5 (1)	....	5 (1)
122-4 White	....	5– 5.5	5–5.25
124-6 White	5–5.25 (2)	5–5.5	5–5.5
Fully Refined:			
123-5	6.25 (1)	6.4 (1&a)	6.25 (1)
125-7	6.25 (1)	6.55 (1&a)	6.25 (2)
128-30	6.5 (1)	5.6–6.6 (2)	6.5 (2)
130-32	6.75 (1)	6.85 (1)	6.5–6.75 (2)
133-5	7 (1)	6.15–7.15 (2)	7 (2)
135-7	7.25 (1)	....	7–7.25 (2)
108-11 White Match wax (tight bbls.)			5.5 (1)

Naphtha

Prices Effective July 21	V.M.&P. Naphtha	Mineral Spirits
Baltimore	10 (2)	9
New York Harbor	10 (2)	9–9.5
Philadelphia district	10.5 (2)	9.5
Boston	10 (2)	9.5
Providence	10 (1)	9.5 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	July 21	July 14
375 e.p. blend, 70 oct.	6 – 6.375	6 – 6.375
390 e.p. blend, 68 oct.	5.875– 6.25	5.75 – 6.25
390 e.p. blend, 66 oct.	5.625– 5.875	5.625– 5.75
400 e.p. blend, 65 oct. min.	5.5 – 5.625	5.5 – 5.625
U. S. Motor, under 65 octane	5.25 – 5.5	5.25– 5.5
38-40 grav. w.w. kero., 150 fire point	4.5 – 5	4.5 – 5
41-43 grav., w.w. kero.	4.75 – 5	4.75 – 5
44-grav., w.w. kero.	5 – 5.5	5 – 5.5
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90
Cased Goods: (Per case)		
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, under 65 oct	$1.40 –$1.50	$1.40 –$1.50
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
40-43 grav. w.w. kero., 150 fire point	$1.30 –$1.40	$1.30 –$1.40
Kero., p.w.	$1.25 –$1.35	$1.25 –$1.35

Tanker Rates

(Approximate rates. Cents per bbl.)

	Last Paid	Owners Ask
Gulf-N. Atlantic: (not E. of N.Y.)		
Hvy. Crude & Fuel (10 to 19.9 gravity)	57	..
Light Crude, (30 grav. or Lighter)	50	..
Gasoline	50	..
Kerosine	53	..
No. 2 Fuel	57	..

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective July 21

Motor Gasoline Domestic	
Min. 80 oct. '39 Research, max. 2cc lead	6.25 – 6.5
60-62, Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	6 – 6.25
70 oct. unleaded "	6 – 6.25
68 oct. " "	6
65 oct. " "	5.5 – 5.875
60 oct. " "	5.125– 5.625
41-43 w.w. kerosine	3.5 – 4
No. 2 fuel	3.5 – 3.7
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.5
43-47 " "	3.5
48-52 " "	3.625– 3.875
53-57 " "	3.75
58 & above diesel index	3.875
Diesel Oil, ships' bunkers (ex-lighterage)	$1.55
Bunker C, " " "	$0.85 –$0.95
Bunker C, cargoes	$0.85 –$0.95
Motor Gasoline Export	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	6 – 6.25
70 oct. unleaded "	6 – 6.25
68 oct. " "	6
65 oct. " "	5.5 – 5.875
60 oct. " "	5.125– 5.625
61-63 Gravity, Max. 390 e.p.	
72-74 oct. leaded (ASTM)	No Price
60 oct. unleaded "	....
64-66 Gravity, Max. 375 e.p.	
72-74 oct. leaded (ASTM)	No Price
60 oct. unleaded "	....
41-43 w.w. kerosine	3.5 – 4
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.5
43-47 " "	3.5
48-52 " "	3.625– 3.875
53-57 " "	3.75
58 & above diesel index	3.875

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

	July 21 New Steel Drums	Bulk
200 vis. D 210 brt. stock	30.5–32 (2)	25.3 (2)
150 vis. D 210 brt. stock 0-10 p.p.	26.5–28 (2)	21.3 (2)
10-25 p.p.	26 (1)	20.8 (1)
100 vis. D 210 brt. stock 0-10 p.p.	26 (1)	20.8 (1)
10-25 p.p.	25.5 (1)	20.3 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	19 (1)	13.8 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	July 21	July 14
100 No. 3	6 –6.25 (2)	6 –6.25 (2)
200 No. 3	7.75–8 (2)	7.75–8 (2)
300 No. 3	8.25–9 (2)	8.25–9 (2)
500 No. 3½	9.25–10.25 (2)	9.25–10.25 (2)
750 No. 4	9.75–11 (2)	9.75–11 (2)
1200 No. 4	10.25–11.5 (2)	10.25–11.5 (2)
2000 No. 4	12.5 (1)	12.5 (1)
Red Oils: Vis. Color		
100 No. 5-6	6 (1)	6 (1)
200 No. 5-6	7.75–8 (2)	7.75–8 (2)
300 No. 5-6	8.25–9 (2)	8.25–9 (2)
500 No. 5-6	9.25–10.25 (2)	9.25–10.25 (2)
750 No. 5-6	9.75–11 (2)	9.75–11 (2)
1200 No. 5-6	10.25–11.5 (2)	10.25–11.5 (2)
2000 No. 5-6	11–12.5 (2)	11–12.5 (2)

(a) 0.4c discount generally given for slabs loose.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect July 21, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
*Atlantic City, N. J	8.5	9.5	4.5	7.8
*Newark, N. J	8.5	9.5	4.5	7.8
Annapolis, Md	8.35	9.85	5.5	9.5
Baltimore, Md	7.75	9.25	5.5	8.5
Cumberland, Md	9.15	10.65	5.5	10
Washington, D. C	8	9.5	3.5	9
Danville, Va	8.95	10.95	6.5	10.25
Norfolk, Va	7.75	9.75	6.5	10
Petersburg, Va	8.05	10.05	6.5	11
Richmond, Va	8.05	10.05	6.5	11
Roanoke, Va	9.25	11.25	6.5	10.5
Charleston, W. Va	9.05	11.55	6.5	11.5
Parkersburg, W. Va	8.35	10.85	6.5	11.2
Wheeling, W. Va	9.35	10.85	6.5	11.8
Charlotte, N. C	9.9	11.4	7.5	9.3
Hickory	10.45	11.95	7.5	10.3
Mt. Airy, N. C	10.3	11.8	7.5	9.5
Raleigh, N. C	9.65	11.15	7.5	10.3
Salisbury, N. C	9.95	11.45	7.5	10.7
Charleston, S. C	7.75	10.25	7.5	....
Columbia, S. C	8.6	11.1	7.5	....
Spartanburg, S. C	9.3	11.8	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J	12.5	14
Baltimore, Md	15	....
Washington, D. C	15	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J	7.8	6.9	6.9
Newark	7.8	6.9	6.9
Annapolis, Md	....	7.25	....
Baltimore	7.5	7	7
Washington, D. C	8	7.25	7.25
Norfolk, Va	7.75	6.75	6.75
Petersburg	8	7	....
Richmond	8	7	7
Charlotte, N. C	8.3	8.4	....
Hickory	....	8	....
Raleigh	9.3	8.1	....
Charleston, S. C	....	7	....
Columbia	....	8	....
Spartanburg	....	8.8	....

*Effective May 20, '41, minimum retail resale price of 13c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price: Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. T.C.	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gaso-line Taxes
New York City:				
Manhattan & Bronx	9.2	8.9	9.4	*5.5
Kings & Queens	9.2	8.9	9.4	*5.5
Richmond	8.8	8.5	9	5.5
Albany, N. Y	9	8.7	9.2	5.5
Binghamton, N. Y	10.1	9.8	10.3	5.5
Buffalo, N. Y	9.3	9	9.5	5.5
Jamestown, N. Y	9.5	9.2	9.7	5.5
Mt. Vernon, N. Y	9.2	8.9	9.4	5.5
Plattsburg, N. Y	10.1	9.8	10.3	5.5
Rochester, N. Y	9.9	9.6	10.1	5.5
Syracuse, N. Y	9.6	9.3	9.8	5.5
Bridgeport, Conn	9.1	8.8	9.3	4.5
Danbury, Conn	9.6	9.3	9.8	4.5
Hartford, Conn	9.7	9.4	9.9	4.5
New Haven, Conn	9.1	8.8	9.3	4.5
Bangor, Me	9.8	9.5	10	5.5
Portland, Me	9.4	9.1	9.6	5.5
Boston, Mass	9	8.7	9.2	4.5
Concord, N. H	10.5	10.2	10.7	5.5
Lancaster, N. H	11.1	10.8	11.3	5.5
Manchester, N. H	10.4	10.1	10.6	5.5
Providence, R. I	9.1	8.8	9.3	4.5
Burlington, Vt	10	9.7	10.2	5.5
Rutland, Vt	10.1	9.8	10.3	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y	11.1	12.3
†New York City	10	11
Rochester, N. Y	11.9	13.1
Syracuse, N. Y	12.7	....
Boston, Mass	11	11.5
Hartford, Conn	13	14
Providence, R. I	12	12.5

	Kero-sine Yard	Kero-sine T.W.	Mobil-fuel Diesel TC	Mobil-fuel Diesel TW	Mobil-heat Fuel Yard	Mobil-heat Fuel TW
New York:						
Manhat'n & Bronx	....	7.9	....	7.1	....	6.7
Kings & Queens	5.4	7.9	....	7.1	5.1	6.7
Richmond	5.4	7.9	....	7.1	5.1	6.7
Albany	5.6	7.6	5.2	7.2	5.2	6.9
Binghamton	7	9	....	....	6.6	8.1
Buffalo	6.3	8.3	6.2	8.2	6	7.7
Jamestown	6.6	8.6	....	....	6.5	7.9
Mt. Vernon	5.6	8.1	....	7.3	5.3	6.9
Plattsburg	6.2	8.2	....	....	5.8	7.3
Rochester	6.8	8.8	....	....	6.1	7.6
Syracuse	6.7	8.7	....	....	6.3	7.8
Conn.:						
Bridgeport	5.7	7.5	....	....	5.4	6.7
Danbury	6.2	8.2	....	....	5.7	7
Hartford	5.8	7.8	....	7.3	5.3	6.9
New Haven	5.5	7.5	....	....	5.2	6.8
Maine:						
Bangor	6	8	....	....	5.4	7
Portland	5.6	8	5.2	7.2	5.2	6.9
Mass.:						
Boston	5.7	7.9	5.3	7.3	5.3	6.9
N. H.:						
Concord	6.5	8.5	....	....	6.4	7.9
Lancaster	7.6	9.6	....	....	7.4	8.9
Manchester	6.6	8.9	....	....	6.1	7.6
R. I.:						
Providence	5.7	7.7	5.3	7.3	5.3	6.8
Vermont:						
Burlington	6.2	8.2	....	....	5.7	7.1
Rutland	6.4	8.4	....	....	5.9	7.4

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commer-cial T.C.	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa	8.5	9.5	5.5	10
Pittsburgh	9	10	5.5	10.5
Allentown	9	10	5.5	10.5
Erie	9	10	5.5	10
Scranton	9	10	5.5	10.5
Altoona	9	10	5.5	10.5
Emporium	9	10	5.5	10.5
Indiana	9	10	5.5	10.5
Uniontown	9	10	5.5	10.5
Harrisburg	9	10	5.5	10.5
Williamsport	9	10	5.5	10.5
Dover, Del	....	10	5.5	10.5
Wilmington, Del	....	9.5	5.5	10
Boston, Mass	....	9.7	4.5	7.9
Springfield, Mass	....	10.6	4.5	8.8
Worcester, Mass	....	10.3	4.5	7.9
Fall River, Mass	....	9.8	4.5	8.5
Hartford, Conn	....	10.4	4.5	7.8
New Haven, Conn	....	9.8	4.5	8.9
Providence, R. I	....	9.8	4.5	8.5
Atlantic City, N. J	....	9.5	4.5	7.8
Camden, N. J	....	9.5	4.5	7.8
Trenton, N. J	....	9.5	4.5	7.6
Annapolis, Md	....	9.85	5.5	8.5
Baltimore, Md	....	9.25	5.5	7.5
Hagerstown, Md	....	10.35	5.5	8
Richmond, Va	....	10.05	6.5	10
Wilmington, N. C	....	10.35	7.5	9.6
Brunswick, Ga	....	9.25	7.5	*9
Jacksonville, Fla	....	9.25	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa	10.5	12
Lancaster, Pa	11.5	13
Pittsburgh, Pa	14.5	14.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa	8	7	7	4.50	3.75
Allentown, Pa	8.5	7.2	7.2	....	....
Wilmington, Del	8.00	7	7	....	....
Springfield, Mass	8.8	7.3	7.3	....	....
Worcester, Mass	7.9	7.2	7.2	....	....
Hartford, Conn	7.8	6.9	6.9	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

***Sohio X-70 Gasoline**

(*Regular Grade*)

	Con-sumer T.W.	**Re-sellers	Gaso-line ‡S.S.	Gaso-line Taxes	†Kero-sine T.W.
Ohio, Statewide	12	10	13.5	5.5	8.5
Akron	12	9	11.5	5.5	8.5
Cincinnati	12	8.7	11.5	5.5	8.5
Cleveland	12	9.5	12.5	5.5	8.5
Columbus	12	9.5	12.5	5.5	8.5
Dayton	12	8.8	11.5	5.5	8.5
Marietta	12	9.5	12.5	5.5	8.5
Portsmouth	12	9.5	12.5	5.5	8.5
Toledo	12	8.75	11.5	5.5	8.5
Youngstown	12	9.5	12.5	5.5	8.5

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 74 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 87 Oct.	17.5	5.5
Esso Ethyl Aviation 90 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphthas—T.W. Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	7.5	7.5	7	....
Cleveland	9.5	9.5	9.0	6.75

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)

Standard (*Third Grade*)

	†Net Crown	Dealer Standard	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky	8.5	7.5	6.5	9
Lexington, Ky	10.25	9.25	6.5	9
Louisville, Ky	9.75	8.75	6.5	8.5
Paducah, Ky	9.75	8.75	6.5	6.5
Jackson, Miss	9.25	8.25	7.5	*8.5
Vicksburg, Miss	9.25	8.25	7.5	*8
Birmingham, Ala	9.75	8.75	*8.5	8
Mobile, Ala	8.75	6.75	*9.5	8.5
Montgomery, Ala	9.75	8.75	*9.5	*9
Atlanta, Ga	10.25	9.25	7.5	*9
Augusta, Ga	10.25	9.25	7.5	*8.5
Macon, Ga	10.25	9.25	7.5	*9
Savannah, Ga	9.25	8.25	7.5	*8
Jacksonville, Fla	9.25	8.25	8.5	8
Miami, Fla	9.25	8.25	8.5	8
Pensacola, Fla	8.75	7.75	*9.5	8
Tampa, Fla	9.25	8.25	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)

Standard (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stano-lind	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill	11.6	9.6	8.5	4.5	10.3
Decatur, Ill	10.9	8.9	8	4.5	9
Joliet, Ill	11.9	9.6	8.5	4.5	10.3
Peoria, Ill	11.7	9.7	9.1	4.5	10.1
Quincy, Ill	10.4	7.4	7.4	4.5	10
Indianapolis, Ind	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind	11.4	9.9	9.4	5.5	*9.6

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect July 21, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Red Crown T.W.	Dealer Stanolind T.W.	Gasoline Taxes	Kerosine T.W.
South Bend, Ind.	12	10.5	10	5.5	*10.2
Detroit, Mich.	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich.	11.4	9.9	9.4	4.5	9.6
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis.	12.2	10.7	10.2	5.5	10.6
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul	11.9	10.4	9.5	5.5	10.3
Duluth, Minn.	12.2	10.7	10.2	5.5	10.6
Mankato, Minn.	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia.	11.4	8.4	7.9	4.5	*9.8
Davenport, Ia.	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia.	11.7	10.2	9.3	4.5	*10.1
St. Louis, Mo.	9.9	8.4	8	*4.5	9.8
Kansas City, Mo.	9.9	8.4	7.4	*4.5	9.1
St. Joseph, Mo.	11.2	9.7	7.9	*4.5	8.9
Fargo, N. D.	12.9	9.4	10	5.5	11.3
Huron, S. D.	12.3	10.8	10.3	5.5	10.7
Wichita, Kans.	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill.	15.7	4.5
Milwaukee, Wis.	15.9	5.5
Minneapolis, Minn.	15.7	5.5
St. Louis, Mo.	15.2	*4.5
Kansas City, Mo.	14.8	*4.5
Fargo, N. D.	16.7	5.5
Huron, S. D.	16.1	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	16	15	16.5	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minnep'ls	14.2	15.2	13.5	5.5

	Fuel Oils T.W. Standard Heater Oil Chicago:
1-99 gals.	8.75
100-149 gals.	7.75
150 gals. & over	7.25

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals.	8.5	8.5
100-149 gals.	7.5	7.5
150-399 gals.	7.25	7.25
400 gals. & over	6.75	6.75

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals.	8	8
100-399 gals.	7	7
400-749 gals.	6	6
750 gals. & over	5.25	5.25

	Stanolex Bunker C Fuel Oil
1-399 gals.	6.5
400-999 gals.	5.5
1000 gals. & over	4.5

Other Points:	Stanolex No. 1	Stanolex Furnace Oil
Indianapolis		
1-99 gals.	...	*8.7
100 gals. & over	...	*7.7
Detroit		
1-99 gals.	...	7.8
100 gals. & over	...	6.8
Milwaukee		
1-99 gals.	9.2	8.7
100 gals. & over	8.2	7.7
Minneapolis		
1-99 gals.	8.5	8.5
100 gals. & over	...	7.5
100-199 gals.	8	...
200 gals. & over	7.5	...
St. Louis		
1-99 gals.	8	7.5
100 gals. & over	7	6.5
Kansas City		
1-49 gals.	7.8	...
50 gals. & over	6.8	...
1-99 gals.	...	7.8
100 gals. & over	...	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	10.5 7.9	6.5	9.8
McCook	12 8.9	6.5	9.5
Norfolk	11.9 10.4	6.5	10.3
North Platte	12.3 9.4	6.5	10.7
Scottsbluff	11.9 9	6.5	10

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Car	Dealer T.w.	Gasoline Taxes	Kerosine T.W.
New Orleans, La.	6.75	9.25	8.5	*9
Baton Rouge, La.	6.75	9.25	8.5	*9.5
Alexandria, La.	6.75	9.25	8.5	*9.5
Lafayette, La.	7	9.5	8.5	*9
Lake Charles, La.	7	9.5	8.5	*9
Shreveport, La.	6	8.5	8.5	*9
Knoxville, Tenn.	9.5	12	8.5	12.5
Memphis, Tenn.	7.75	10.25	8.5	10.5
Chattanooga, Tenn.	10	11	8.5	11
Nashville, Tenn.	9.25	11	8.5	10
Bristol, Tenn.	9.75	10.25	8.5	12
Little Rock, Ark.	7.25	9.75	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Retail	Thriftane *Tank Wagon	Thriftane Retail	Gasoline Taxes
Dallas, Tex.	7.5	11.5	6	9	5.5
Ft. Worth, Tex.	7.5	11.5	6	9	5.5
Houston, Tex.	8	12	6	9	5.5
San Antonio, Tex.	8	12	6	6	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex.	7	11
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.	7	10

74 Oct. Aviation Gasoline, Clear	Tank Car
FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	8	6	5.5
Ft. Worth, Tex.	8	6	5.5
Wichita Falls, Tex.	8	6	5.5
Amarillo, Tex.	8	6	5.5
Tyler, Tex.	8	6	5.5
El Paso, Tex.	10.5	9.5	5.5
San Angelo, Tex.	8	6	5.5
Waco, Tex.	8	6	5.5
Austin, Tex.	8	6	5.5
Houston, Tex.	8	6	5.5
San Antonio, Tex.	8	6	5.5
Port Arthur, Tex.	8	6	5.5

Continental Oil Co.

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col.	10	9	5.5	11
Grand Junction, Col.	12.5	11.5	5.5	12.5
Pueblo, Col.	9.5	8.5	5.5	9.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	10.5	9.5	5.5	11.5
Billings, Mont.	11.5	10.5	6.5	12.5
Butte, Mont.	10.5	9.5	6.5	13.5
Great Falls, Mont.	10.5	9.5	6.5	12.5
Helena, Mont.	10.5	9.5	6.5	13
Salt Lake City, Utah.	13.5	12.5	5.5	14.5
Boise, Ida.	13.6	12.6	6.5	16.5
Twin Falls, Ida.	14.6	13.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	10
Roswell, N. M.	8.5	7.5	*7	8.5
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	8.5	5.75	*7	6.5
Little Rock, Ark.	9.25	6.15	8	8
Texarkana, Ark.	8.5	6.5	*5.5	6
Muskogee, Okla.	8.5	7.5	7	8
Oklahoma City, Okla.	8	7.5	7	8
Tulsa, Okla.	8	7.5	7	8

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state tax applies within city limits of Ft. Smith, Ark.
†To consumers & dealers.
Discounts: To dealers only—Cheyenne 1.5c on Bronz-z-z & Demand.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Tank Truck	Standard Retail	Flight Tank Truck	Flight Retail	Gasoline Taxes
San Francisco, Cal.	13	14	11	12	4.5
Los Angeles, Cal.	12.5	13.5	10.5	11.5	4.5
Fresno, Cal.	14	15	12	13	4.5
Phoenix, Ariz.	15	16	12	13	6.5
Reno, Nev.	15	16	13	14	5.5
Portland, Ore.	13.5	14.5	11.5	12.5	6.5
Seattle, Wash.	13.5	14.5	11.5	12.5	6.5
Spokane, Wash.	15	16	13	14	6.5
Tacoma, Wash.	13.5	14.5	11.5	12.5	6.5

	Stanavo Tank Truck	Aviation Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	15.5	4.5	11.5
Los Angeles, Cal.	15	4.5	10
Fresno, Cal.	16.5	4.5	12.5
Phoenix, Ariz.	17.5	6.5	12.5
Reno, Nev.	17.5	5.5	13.5
Portland, Ore.	16	6.5	13.5
Seattle, Wash.	16	6.5	13.5
Spokane, Wash.	19	6.5	16.5
Tacoma, Wash.	16	6.5	13.5

Discounts:
To Resale & Commercial Consumers—3c off posted tank truck tax included price on Standard & Stanavo Aviation, 2c off on Flight. Deliveries less than 40 gals. to commercial consumer trade, 1c a gal. above posted tank truck tax included price, except single deliveries to Marine trade only which are billed at posted tank truck tax included price less 3c for Standard & Stanavo Aviation, and less 2c for Flight.
Kerosine—Tank car and truck & trailer deliveries, 3c off posted tank truck price; plant stem deliveries to jobbers, 2.5c off posted tank truck price.

Canada

PRICES OF IMPERIAL OIL, LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	Gasoline T.W.	*Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	22	10	24
Winnipeg, Man.	21.5	10	23.5
Regina, Sask.	19	10	21
Saskatoon, Sask.	21.8	10	23.8
Edmonton, Alta.	19.9	10	21.9
Calgary, Alta.	17	10	19
Vancouver, B. C.	17	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	15.5	13	19
Halifax, N. S.	15.5	13	19

Discounts: Gasoline—Maritime Provinces—undivided & divided dealers, t.w. price; British Columbia—undivided and divided dealers, 2c off t.w. price; balance of territory—undivided dealers, 1c off t.w. price, divided dealers, t.w. price.
*Includes 3c Federal, and Provincial taxes.

Tank Wagon Price Changes

(These changes have been made in price tables)

Socony-Vacuum—Kerosine:
Jamestown yard & t.w. up 0.1c July 3; Hartford yard up 0.2c, t.w. up 0.3c July 14.

S. O. Indiana—Red Crown Gasoline:
Chicago t. w. & dealer up 0.5c July 18; Decatur t. w. up 1.5c July 18, dealer up 1c July 11; Joliet dealer up 0.5c July 18.

S. O. Indiana—Stanolind Gasoline:
Chicago & Joliet dealer up 0.5c July 18; Decatur dealer up 1c July 11.

Imperial Oil, Ltd.—Gasoline & Kerosine:
T.w. price on 3-Star Imperial Gasoline & Kerosine up 1c at all points throughout Canada July 16.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (June 18, '41)
Bradford-Allegany $2.75
Southwest Penna $2.40
Eureka (West Va.) $2.34
Corning, O. (May 27, '41) $1.31

Posted by Tide Water Assoc. Oil Co. (June 18, '41)
Bradford-Allegany $2.75

Posted by The Pennzoil Co. (June 18, '41)
National Transit $2.68*

Posted by Valvoline Pipe Lines (June 18, '41)
Bradford (Flk & McKean Counties, Pa.) $2.75
Warren, Forest, Venango, Clarion & Butler Counties, Pa $2.68
Allegheny, Beaver, Washington & Greene Counties, Pa $2.40
West Virginia $2.34
South Eastern Ohio $2.30

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.63 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)
Midland, Midland County $1.44
Sherman $1.39

Posted by Simrall Corp. (May 27, '41)
Greendale, Porter, Vernon, Crystal & Wise $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.42
Freeman, Redding, Lincoln & Winterfield $1.39
West Branch-Arenac $1.24
Hamilton-Grout $1.29

Posted by Sohio Corp. (Mich. Div.)
Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) $1.45
Trenton crude, Monroe Co. (June 2, '41) $1.39

Posted by Bay Pipe Line Corp. (May 27, '41)
Saginaw & Wise $1.44
Buckeye, Bentley & Kawkawlin $1.42
Clare $1.11
Adams (June 1, '41) $1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)
Illinois Basin, including Griffin pool $1.37
Carmi Storms, Ill. area $1.32
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)
Illinois Basin $1.37
Eastern Ill. & Western Ind. 1.22

Posted by Carter Oil Co. (May 21, '41)
Louden, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)
Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.
Somerset oil in Ash. Lines, Ky.: (June 19, '41)
Big Sandy River $1.38
Kentucky River $1.43

Posted by Owensboro-Ashland Co.
Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (May 28, '41)
Lima, O. $1.17
Cleveland, Lodi & Chatham (O.) areas $1.22

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3	Schedule No. 4
Below 21	$0.85	$0.75	$0.70	$0.78
21-21.9	.87	.78	.73	.80
22-22.9	.89	.81	.76	.82
23-23.9	.91	.84	.79	.84
24-24.9	.93	.87	.82	.86
25-25.9	.95	.90	.85	.88
26-26.9	.97	.93	.88	.90
27-27.9	.99	.96	.91	.92
28-28.9	1.01	.99	.94	.94
29-29.9	1.03	1.02	.97	.96
30-30.9	1.05	1.05	1.00	.98
31-31.9	1.07	1.07	1.02	1.00
32-32.9	1.09	1.09	1.04	1.02
33-33.9	1.11	1.11	1.06	1.04
34-34.9	1.13	1.13	1.08	1.06
35-35.9	1.15	1.15	1.10	1.08
36-36.9	1.17	1.17	1.12	1.10
37-37.9	1.19	1.19	1.14	1.12
38-38.9	1.21	1.21	1.16	1.14
39-39.9	1.23	1.23	1.18	1.16
40 & above	1.25	1.25	1.20	1.18

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, '41 in Okla. & Kans. beginning with 28-28.9 at $1.01.

No. 2: **Carter** May 20, '41 in Okla. **Shell** May 19, '41 in Okla. & Kans. (exclusive of Carter Co., Okla.) **Magnolia** May 21, '41 in Okla.

No. 3: **Shell** May 19, '41 in Carter Co., Okla.

No. 4: **Stanolind** May 20, '41 in N. Texas. **Magnolia** May 21, '41 in N. & N. Central Texas. **Sinclair-Prairie** May 21, '41 in N. Central Texas. **Continental** May 21, '41 in N. Texas. **Texaco** May 21, '41 in N. & N. Central Texas. **Magnolia, Sinclair-Prairie & Continental** schedules begin with Below 29 at $0.94. **Texaco** schedule begins with 28-28.9 at $0.94.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.
(May 21, '41, except Panhandle, Tex. July 9, '41)

Gravity	Refugio	Texas Gulf Coast	Miran-do	Ana-huac	Dick-inson	East Central Texas	West Central Texas	Pan-handle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	....	....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	....	....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	....	....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	....	....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	....	....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	....	....	.83	.80	.90
25 & above	....	....	....	....	....	....	....	....	....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.88	.85	.82	....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.90	.87	.84	....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.92	.89	.86	....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.94	.91	.88	....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.96	.93	.90	....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	.98	.95	.92	....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.00	.97	.94	....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.02	.99	.96	....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.04	1.01	.98	....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.06	1.03	1.00	....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.08	1.05	1.02	....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.10	1.07	1.04	....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.12	1.09	1.06	....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.14	1.11	1.08	....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.16	1.13	1.10	....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.18	1.15	1.12	....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsammons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gillock, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79
East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14
Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble West Texas except Magnolia begins with Below 29 at $0.88.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos.—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.80 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.

Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

East Texas—(May 21, '41) $1.25
Long Lake, Texas—(May 21, '41) 1.23

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

E. Texas $1.25
Satsuma & Tomball, Tex. $1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble Panhandle except Stanolind begins with Below 26 at $0.82.

THE TEXAS CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas $1.25
Darst Creek, Tex. 1.14
Cass Co., Tex. $1.20
Conroe, Tex 1.43
Hockley & Cochran Cos., Tex. ..... .87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.86.

East Texas $1.25
Livingston field, Polk Co., Tex. 1.25
Pecos Co., Tex., except Yates Shallow pool $0.95
Pecos Co., Yates Shallow pool ..... .82

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex.—(July 1, '41)—Same as Humble.

Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35.

Eddy Co., N. M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S.O. California, May 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Colea Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills							1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9 $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	Caddo, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	....	....	.98	....
23-23.9	.74	....	....	....	.96	....
22-22.9	.72	....	....	....	.94	....
21-21.9	.70	....	....	....	.92	....
Below 21	.68	....	....	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

Caddo schedule includes De Soto, Sabine, Fouke, Homer, Miller Co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake).

Bunkie schedule includes Eola, Olla, & South Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate 1.30
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle, La. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.
Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)
Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18

Abbeville, La.

Below 36 $1.07	37-37.9 $1.11	39-39.9 $1.15
36-36.9 1.09	38-38.9 1.13	40 & above 1.17

CANADIAN FIELDS

Posted by Imperial Oil Limited Western Ontario (Nov. 6, 1939)
Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (Sept. 12, '40)
(Prices FOB producer's tankage)

33-33.9 $1.08	44-44.9 $1.30	55-55.9 $1.52
34-34.9 1.10	45-45.9 1.32	56-56.9 1.54
35-35.9 1.12	46-46.9 1.34	57-57.9 1.56
36-36.9 1.14	47-47.9 1.36	58-58.9 1.58
37-37.9 1.16	48-48.9 1.38	59-59.9 1.60
38-38.9 1.18	49-49.9 1.40	60-60.9 1.62
39-39.9 1.20	50-50.9 1.42	61-61.9 1.64
40-40.9 1.22	51-51.9 1.44	62-62.9 1.66
41-41.9 1.24	52-52.9 1.46	63-63.9 1.68
42-42.9 1.26	53-53.9 1.48	64 & over 1.70
43-43.9 1.28	54-54.9 1.50	

Absorption Gasoline (Jan. 5, 1938)
90% Rec., 20 lb. Reid v.p. $1.94
90% Rec. 17 lb. Reid v.p. $2.08

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Iles, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)
Elk Basin, Wyo. $1.00
Grass Creek, Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)
Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Canon City & Florence, Col.	$1.05	Big Muddy, Wyo., (May 30, '41)	$1.08
Creek, Mont.	1.15	Lance Creek, Wyo., (July 1, '41)	$1.12

CLASSIFIED

Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

Business Opportunities

Unusual opportunity purchase interest in good jobbing business. Excellent stations, bulk plants, dealer and farm business. Michigan industrial and fruit centers. Location offers real opportunity for sound investment for worker. Box No. 936.

For Sale

Lot on Lincoln Highway at approach to western terminus of Turnpike on right side going east, high speed approach, five hundred foot frontage, two hundred foot depth, graded to highway level. Finest location in the east for combination restaurant and superservice station. For sale or lease by owner. Box No. 940.

One 3800 Gallon Semi-trailer Transport Truck. Tank divided 1650, 1650, and 500. Tractor Ford Truckstell. Good rubber and good mechanical condition. Box No. 942.

Positions Wanted

Operating Executive; Fifteen years experience with major companies, now employed, excellent reasons for desiring change. Thoroughly familiar with river and pipe-line Terminal construction and operation; service stations and bulk depots. Five years experience field erection large storage tanks. Familiar budgets, cost control and accounting. Box No. 939.

Twelve years with major oil company. Experienced service station supervisor, marine terminal superintendent, agent, bulk depot supervisor, and operations. Desires position. Box No. 938.

Qualified and experienced sales manager, bulk plant manager and tank car stations supervisor available. Fifteen years refinery experience. Locate anywhere. Box No. 937.

Petroleum engineer and geologist, ten years experience in oil and gas fields; desires connection with reliable company. Box No. 941.

Position Wanted

Married man, age 34, with 15 years Penna. refining experience in oil testing, shipping, traffic, sales and administration desires steady employment with established oil company. Not employed at present and available for interviews. Box No. 943.

Situation Open

WANTED

Young man with technical education and practical experience in refinery engineering to work in office of independent refinery. Must be familiar with new refining processes and be able to check refinery yields and other reports covering refinery operations. State age, education, experience, and salary expected. **Box No. 929.**

Graduate Engineer experienced in inspection of oil refinery equipment and materials. Give details of previous experience, education and salary expected. Attach small photograph and give draft status. Reply to Post Office Box 2527, Houston, Texas.

Man Who Knows Oil Refining

Must understand both the chemistry and mechanical engineering of refining.

Must be able to make intelligent investigations of processes, equipment and their use and write reports clearly and easily.

Must have pleasing personality.

Can be a man who has retired from active duty, who would like to continue his contacts with the oil industry, possibly on part time basis.

Send inquiries to Box No. 923

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Specialists on Petroleum Products
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NEWARK, N. J.
Telephone Bigelow 3-4020

PHOENIX CHEMICAL LABORATORY
An Exclusive Petroleum Testing Laboratory
Equipped For All Known Tests & Research in Petroleum Products
3953 Shakespeare Ave., Chicago
Telephone—Spalding 3578

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"For Sale," "Wanted to buy," "Help Wanted," "Business Opportunities," "Miscellaneous" classifications, set in type this size without border—10 cents a word. Minimum charge, $3.00 per insertion.

"Position Wanted"—5 cents a word Minimum charge $1.00 per insertion.

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ADVERTISERS' INDEX

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Acheson Colloids Corp.
American Flange & Mfg. Co. 35
American Grease Stick Co. 34
American Machine & Metals, Inc.
American Telephone & Telegraph Co.

Badger & Sons Co., E. B.
Blackmer Pump Co. 36
Bowser Co., S. F.
Brodie Co., Inc., Ralph N.
Brunner Mfg. Co.
Buckeye Iron & Brass Works
Butler Manufacturing Co. 2, 3

Champion Spark Plug Co.
Chevrolet Motor Division, General Motors Sales Corp.
Chicago Bridge & Iron Co.
Cincinnati Advertising Products Co. 36
Cities Service Oil Co.
Continental Can Co.
Crown Can Co.
Curtis Pneumatic Machinery Co.

Davidson Enamel Company
Dayton Pump Co. 4
Du Pont (Neoprene Div.)

Eastern Engineering Co.
Erie Meter Systems, Inc.
Ethyl Gasoline Corp.

Farrell Mfg. Co.
Fleet-Wing Co.
Ford Motor Co.
Freedom Oil Co.
Fruehauf Trailer Co.

General American Transportation Corp. 38
General Motors Truck & Coach Division
Gilbert & Barker Mfg. Co. 33
Goodall Rubber Co.
Goodyear Tire & Rubber Co.
Graver Tank & Mfg. Co., Inc.
Greyhound Oil Co.
Gulf Oil Corp.

Heil Co. 11
Humble Oil & Refining Co.

International Metal Hose Co.

Kellogg Division, American Brake Shoe & Foundry Co.

McDonald Mfg. Co., A. Y.
Mack Mfg. Co.
Master Electric Co.
Mixing Equipment Co. Inc.
Morrison Bros. Inside Front Cover

National Industrial Advertisers' Association Inside Back Cover
National Petroleum News
National Pumps Corp.
Neptune Meter Co. 6, 7
New York Lubricating Co. 8

Oil Burner Institute
Overhead Door Corp.

Paraflow Sales Division
Pawling Refining Co.
Pennsylvania Grade Crude Oil Association
Pennsylvania Petroleum Products Co.
Pennsylvania Rubber Co.
Philadelphia Valve Co.
Phillips Petroleum Co.
Pittsburgh Equitable Meter Co. 1
Pure Oil Co.

Quaker State Oil Refining Co.

Reeves Brothers
Republic Oil Co.
Roper Corp., Geo. D.

Shell Oil Co. Inc. 37
Sinclair Refg. Co., Inc.
Smith Meter Co.
Socony-Vacuum Oil Co.
Standard Steel Works
Sun Oil Co. Outside Back Cover

Texaco Development Corp.
Thornton Tandem Co.
Tidewater Field W'hses, Inc.
Timken Detroit Axle Co.
Tokheim Oil Tank Co.

Universal Oil Products Co. 29
U. S. Industrial Chemical Co.

Viking Pump Co.

Westinghouse Electric & Mfg. Co. 31
Witte Engine Works

· PERSONALS ·

Now heading the petroleum committee for the New York City United Service Organization campaign is **Frederick R. Pratt,** New York, supervisor of marine products for Socony-Vacuum Oil Co., Inc. Mr. Pratt's father, **Herbert L. Pratt,** was former chairman of Socony's board of directors.

* * *

Vermont is apparently claiming the vacationing attention of many New York oil men this season. Latest to yield to the lure of the Green Mountains is **Robert H. Scholl,** New York, of Standard Oil Co. of New Jersey's legal department. He couldn't be reached before he caught the midnight, but it is said his luggage included tennis racket, golf clubs and a fishing pole.

* * *

Lawrence Walker, Harrodsburg, Ky., Peoples Aetna Co., has been convalescing in St. Mary's Hospital, Lexington, following a heart attack several weeks ago.

* * *

Shown above with his favorite horse, the mare "Good Hope", is **Harry R. Lewis,** Warren, Pa., formerly president of Conewango Refining Co. and Hyvis Oils, Inc., who resigned recently to form his own company, the Harry R. Lewis Co., specializing in new product development, marketing assistance and brokerage. "Good Hope", an excellent hunter and jumper, was raised on Mr. Lewis' farm

Clyde Smith, Barbourville, Ky., Pure Oil Co., is a candidate for representative in the general assembly for Knox county on the Republican ticket.

* * *

W. C. Waley, vice-president of Barnsdall Oil Co., was elected president of the California Petroleum Safety Board at its annual meeting, succeeding **L. A. Cranson,** vice-president of Honolulu Oil Corp. This organization was formed 4 years ago by a group of independent oil companies to promote a joint safety program for their employes. In addition to Mr. Cranson, vice-presidents of the board include **L. L. Aubert,** Bankline Oil Co., and **A. S. Hayes,** Bell and Lofland Drilling Co.

* * *

New manager of refinery operations for Wasatch Oil Refining Co., Salt Lake City, and the Idaho Refining Co., Pocatello, Idaho, is **R. W. Leslie,** who has resigned his position as director of research and process development for Skelly Oil Co., El Dorado, Kans.

* * *

Four scores in the 70's is ample testimony that the annual spring championship golf tournament of the New Jersey Oil Trade Assn. late last month was a real competition among good golfers.

Frank G. Campbell, Sun Oil Co. and chairman of the golf outing committee, secured possession of the association's trophy with a low score of 74. **W. W. Krautter,** Maplewood, N. J., registered a 77 net; **Cornelius J. Breen,** Mt. Vernon, 78 net; and **Joseph A. MacArthur,** East Orange, N. J., a 79 net.

Over 150 oil men from New Jersey and New York attended the banquet following the tournament at the Suburban Golf Club. **Lawrence A. Ryan,** Newark, N. J., president of the association, acted as toastmaster. Vice-President **A. L. Saltzman** presented the championship cup to Mr. Campbell and Mr. Ryan presented the other prizes.

* * *

An automobilist by heart and instinct, **"Mort" Lewis,** New York, general marketing department, Standard Oil Co. of New Jersey, has returned from a motoring trip through Maine, New Hampshire and Vermont with his wife and one son. They visited their other son at a summer camp.

* * *

Jerry S. Feroe, Tulsa, became a proud papa for the second time when Gretchen Lee arrived early in the morning of July 10. Mr. Feroe is assistant to Hanlon-Buchanan Vice-President **Ray E. Miller.**

* * *

Harry O'Gara, New York, Shell Oil Co. publicity man, is back from the Ozark Mountains, hiding under a heavy coat of tan and rarin' to go after a spell of bass fishing, tennis and plain "lazyin' around".

* * *

Cut courtesy Magnoliagram

Birth of the Texas oil industry is commemorated in the plaque presented to the citizens of Corsicana by the Texas Mid-Continent Oil and Gas Assn. Plaque is mounted on a scale model derrick just south of the city. Above, **E. L. Smith,** president of the association, inspects the memorial during the celebration of Texas' 30 years of oil progress

BUT DON'T STAND BEHIND THE FISH

In NPN's mail each summer are letters from oil men asking that subscription addresses be changed because "I'm going to get away from it all"—and go fishin'. NPN is positive that a goodly number of trout, bass, tuna, perch and other piscatorial varieties commit suicide by grabbing oil men's hooks. In other words all fish don't get away. So to you oil men who walk like conquerors back to the cabin with a sly grin and a full basket, we address this little message: Get the camera and have someone take a shot for NPN. But don't hide behind the fish.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

Oil's Research Chemists Open the Door To New Products and Wider Markets

● "Miracles from Petroleum" read the caption over a recent oil company display of its products, in a store window on Chicago's Michigan Blvd. The display was not of motor oils, or industrial lubricants, or any other of the standard products oil companies today make in large volume. What was shown were plastic materials in every day use, pharmaceutical products, cosmetics, toilet preparations and other NEW products from petroleum that have emerged from the research laboratory and are now being commercially made by some oil companies. These are but the forerunner of a large number of commodities of widely different lines and of intermediate products for use in other manufacturing lines, that will be made by the synthesis of raw materials secured from petroleum and natural gas.

The oil industry is accustomed to thinking of its markets in terms of hundreds of millions of barrels of fuel and lubricants and these figures greatly overshadow the present markets for any of these new products. However, the output of some of these new lines that come from the oil companies is already attracting attention in competing fields.

One authority, contributing an article in this issue of Refining Technology, states that the annual production of organic chemicals from petroleum and other raw materials not of coal tar origin is at the rate of 3,600,000,000 pounds; while but 1,600,000,000 pounds of chemicals, including dyes, are made from coal tar. The manufacture of by-products from coal tar is considered an important part of the chemical manufacturing industry. At the meeting this spring in St. Louis of the Petroleum Division of the American Chemical Society, there were displayed 235 different chemical products now being commercially manufactured in this country from petroleum sources. A tabulation of the Du Pont company shows that 120 parts in the 1942 automobiles will be made from plastics, one important source of which is petroleum.

Also indicating this trend of the oil refining industry into a new field, is the growing use by the oil companies themselves of synthetic chemicals in their own products, and made from petroleum. Among these are the materials used as additives and detergents for motor oils; extreme pressure agents for lubricants; antioxidants, to prevent deterioration of gasoline by oxidation; metal deactivators, to prevent oxidation of gasoline in the presence of certain metals; addition agents to raise the cetane number of diesel fuels and, of course, antiknock agents for gasoline.

Refiners have also turned to synthetic methods of treating the butanes and butylenes recovered from the gases produced in cracking operations, to secure the synthetic high octane blending material used to produce 100-octane number aviation gasoline. Iso-octane, one of these blending agents, was procurable on a laboratory scale only a few years ago, at high prices; today millions of gallons are produced annually and the price is around 20c a gal.

The rapidity with which synthetic chemicals have been developed within the oil industry for improving its own products can be taken as indicative of future developments in the manufacture of chemical products and plastics for far wider markets. Petroleum offers an abundant supply of the raw materials for various syntheses, at costs that are advantageous as compared with those of competing products from other sources.

Also, the stimulous of the defense emergency upon the research chemist in the oil industry is hastening the advent of this new phase in refining. The chemical manufacturing industry in this country was in its infancy 25 years ago. Yet out of the last war came the processes for the manufacture from petroleum gases of synthetic alcohols and of toluene and related products. The manufacture of toluene by oil companies then started from scratch. Now one plant being erected to make toluene from a petroleum source is said to have capacity to produce more of this product than the total now being made from by-product coke ovens. Synthetic rubber, then purely in a research stage, now is counted upon to help relieve any shortage in the supply of natural rubber.

In speaking of the preparedness of the petroleum research chemist to meet the demand of the present emergency, and it could apply as well to refinery operating staffs, Prof. Hugh S. Taylor, chairman of the chemistry department of Princeton University, and widely known authority in this science, told the Petroleum Division of the American Chemical Society:

"Not only will the industry (oil) take care of its conceivable normal needs, which will include the high-grade fuel necessary for modern aviation, especially in time of war; but it will also serve both the explosive and rubber industries by providing them with raw materials essential for their development in the period of stress. Synthetic rubber, toluene, and glycerol for explosives have in the past year come forward as important units in the national defense program and petroleum refineries have already begun to supply the raw materials necessary.

"The petroleum industry has been able to take care of these new demands by an intelligent anticipation of the future needs of the industry and the gearing of its research program to those anticipated needs."

This same far-seeing policy of the oil industry will also prepare for the introduction of new products into new, peace-time markets. Dr. H. E. Howe of the American Chemical Society expressed succinctly the possibilities in this direction, in telling an audience of oil men: "Petroleum and natural gas furnish abundant sources of low cost raw materials for a lot of things the public wants today."

Plastics and Chemicals From Petroleum Bases

Chemical Utilization of Oil and Gas Is Already Engaged in, to Secure Widely Diversified Commercial Products. Economic Factors Warrant Further Expansion

By Reginald L. Wakeman*

The author of the accompanying paper, during the past five years, has done special work in the field of synthetic resins and plastics at Mellon Institute. Prior to that he had industrial experience in the development of chemicals from the higher paraffins in a large chemical concern in this country. Previous to that he did research work in Europe in the chemistry of hydrocarbons.

The paper was presented at the Tenth Pennsylvania Mineral Industries Conference, held earlier this year at Pennsylvania State College, under the auspices of the Pennsylvania Natural Gas Men's Assn., Pennsylvania Grade Crude Oil Assn., and Bradford District Pennsylvania Oil Producers Assn.

THE story of the American development of chemical industries based upon petroleum and natural gas is a fascinating tale of the past two decades.

When this nation entered the First World War, it was faced with the necessity of producing large quantities of mustard gas. The synthesis of this vesicant begins with ethylene. Manufacture of the latter in sufficient amount presented a serious problem which was solved by dehydrating alcohol. The plant constructed at Edgewood Arsenal toward the end of the war would have yielded enough ethylene by this method to make 40 tons of mustard gas per day. Times have certainly changed! Hardly a score of years have passed, yet today ethylene is available in such huge volumes from operations of the petroleum industry that many important chemicals are produced from it. Indeed the tables have been turned so completely that, in 1936, some 10,000,000 lbs. of ethyl alcohol were made by its hydration—and alcohol is only one of its many derivatives which now circulate daily in our markets.

This extraordinary progress in the chemical development of ethylene is typical of a profound change in the outlook of the industrial organic chemist. No longer does he consider coal tar as the only important source of raw materials with which to ply his art. Petroleum is of equal rank. Last year, an estimated total of 3600 million lbs. of organic chemicals were produced from petroleum and other raw materials not of coal-tar origin, while only 1600 million lbs. of chemicals, including dyes, were made from coal tar.

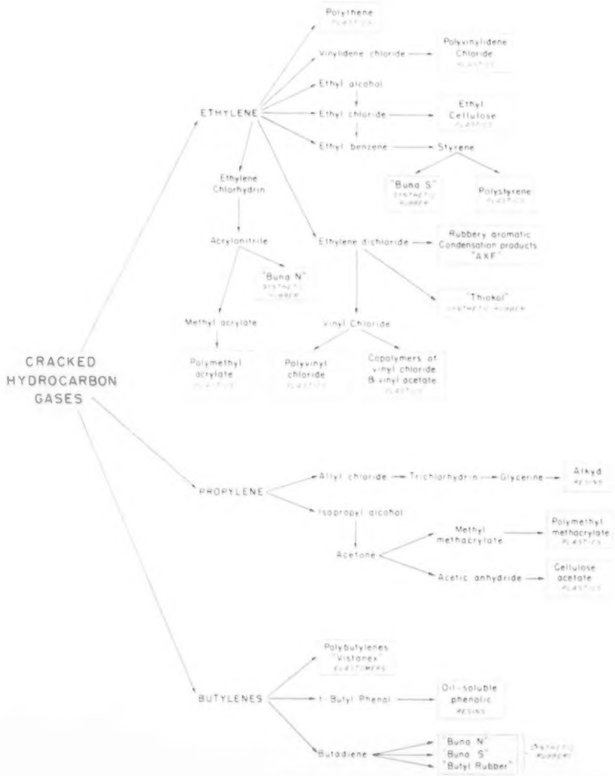
There are five principal ways by which the paraffinic constituents of petroleum and natural gas are converted to chemicals, namely:

(1) Pyrolytic cracking, followed by chemical reactions of various types;
(2) Oxidation with steam, carbon dioxide, or atmospheric oxygen;
(3) Chlorination,
(4) Nitration, and
(5) Sulfonation.

Chemicals from Cracked Gases

The manufacture of carbon black by the pyrolysis of natural gas is well known. In certain processes carbon black is the only product. In others, so-called "soft

Plastics Derived from Cracked Gases And Some of Their Intermediates



*Industrial Fellow of the Pittsburgh Equitable Meter Co., Mellon Institute, Pittsburgh.

blacks" of the rubber industry are produced and, in addition, hydrogen is obtained in a degree of purity such that it can be used for high-pressure synthesis of ammonia. Oil refineries can produce hydrogen even more cheaply by catalytic dehydrogenation of naphtha.

The pyrolysis of natural gas under other controlled conditions has been carried on for many years expressly for the purpose of obtaining ethylene for conversion into chemicals, while it and other olefins now utilized in chemical synthesis are, of course, produced during the cracking of petroleum oils.

The unsaturation of ethylene is a point of attack which makes it possible to obtain a number of derivatives in good yield, by addition of various reagents such as water, hydrochloric acid, chlorine and hypochlorous acid. From these derivatives still others can be obtained, so that an almost unlimited number of compounds can be made starting with ethylene. The manufacture of chemicals from cracked gas as undertaken by the Carbide and Carbon Chemicals Corp. was one of the earliest ventures in the utilization of petroleum products by chemical industry and it has been one of the most successful. The first efforts of this company were directed primarily toward the production of ethylene glycol which, although at that time a new commercial product, rapidly developed large uses as an antifreeze for automobile radiators and as an intermediate in the manufacture of explosives. Other products made from both ethylene and propylene soon followed in the wake of glycol until, at present, over 150 organic chemicals are being synthesized commercially by this firm. Plastics, solvents, pharmaceuticals, toilet preparations, adhesives, dyestuffs, wetting agents, detergents, dewaxing agents for lubricating oils, photographic chemicals, and antifreezes are but a few of the varied fields in which these chemicals are now indispensable.

Plastics are an outstanding example of an industry which has been greatly altered because of the advent of chemicals from cracked gases. Not only are many solvents and plasticizers for resins derived from these gases, but so also are many of the resins themselves.

A recent British plastic, sold under the trade-name "Polythene", is a straight polymer of ethylene. It is more or less rubber-like in nature, although it cannot be vulcanized. It has found use in cable sheathing, especially since the present war has shut off British imports of other materials formerly used for the purpose.

Better known plastics are those of the polyvinyl type, made from vinyl chloride which, in turn, is produced from ethylene. At atmospheric conditions, vinyl chloride is a gas, but, under the influence of suitable catalysts, it is converted to solid, resinous polyvinyl chloride. Where plasticized with various non-volatile liquids such as tricresyl phosphate, this resin exhibits certain characteristics commonly associated with rubber. Although it cannot be vulcanized and is therefore susceptible to heat, it possesses a limited degree of elasticity and is superior to rubber in resistance to oil immersion, flexing, and aging. Under the trade name "Koroseal" it has been placed upon the market for mechanical goods such as gaskets and textile cots which require special properties not possessed by rubber. It has also come into general utility as a coating for cloth destined for both domestic and industrial applications, ranging from silk umbrellas and raincoats to acid-resistant linings for stoneware pipes and tanks. Under the trade-name "Flamenol", polyvinyl chloride is used as electric-wire insulation.

Vinyl chloride can, moreover, be copolymerized with a closely related compound, vinyl acetate. The properties of these copolymers, sold under the trade-name "Vinylite," vary with the proportions of the two intermediates and with the molecular weight of the product. Some of them can be molded into shaped articles such as toothbrush handles or combs. Others are made into thin, stiff, non-

Plastics of one type secured from petroleum find growing use in decorative and room furnishing materials. In this smart New York beauty shop, plastic sheet forms the webbing of the chairs; in film form is used for draperies and to protect the upholstery and a compound of the same material forms the floor covering

Contents . . .

REFINING TECHNOLOGY

July 23, 1941

Five principal ways for the synthesis of petroleum and natural gas constituents into plastics and chemical products are described; data is also given on the extent of commercial output of some of these products **R-226**

Experimental work by an oil company, during the last war, into the manufacture of toluene from petroleum, and the later design and operation of a commercial toluene plant, is told by two oil technologists who had a prominent part in this work **R-234**

NPN Semi-Annual Subject and Author Index of Refining Technology articles (January-June, 1941) **R-238**

Advertisers Index ..... **R-239 & 47**

Other Editorial Index **5**

warping sheet material, either colored or transparent, used for decorative purposes and for such industrial applications as the construction of electroplating tumbling barrels, where chemical resistance is a prime factor. Still other categories of these resins are marketed as flexible calendered sheet, such as material for novel belts and suspenders and the new product "Krene," which is finding its way into the retail trade as shower curtains, raincoats, draperies, and other household articles. Still another variety of "Vinylite" is spun into artificial silk which has already developed important uses as filter cloth. "Vinyon" has also been made into bathing suits and stockings.

The use of "Vinylite" resins in metal lacquers, as, for example, "keglined" beer cans, is a significant application which should not be overlooked.

Vinyl acetate has just been mentioned as a component of some of these resins. While this liquid can be derived from ethylene, it is probably made industrially by more economical procedures starting with acetylene. Although acetylene is now produced from calcium carbide, a potential source is natural gas. Research work of recent years has shown the feasibility of making it from methane by catalytic pyrolysis, using extremely great space velocities. It is understood that this process has already been carried through to plant-scale operations. The future will disclose whether engineers are able to evolve manufacturing methods that can compete with those now using carbide. If so, natural gas may also become the source of raw material for the imposing array of chemicals and plastics manufactured on a large scale from acetylene. Plastics derived from this gas include polyvinyl acetate, used in adhesive formulation, polyvinyl formal, used in coating magnet wire, polyvinyl butyral, of which some 5,000,000 lbs. were used last year as an interlayer in safety glass, polyvinyl alcohol, now being developed as a textile size and an oil-insoluble rubber substitute, and the well established oil-resistant "synthetic rubber," "Neoprene."

Also related to ethylene and acetylene is the product known chemically as vinylidene chloride. It is polymerized directly to new resins sold by the Dow Chemical Co. under the trade name "Saran." These resins are less than a year old, but they bid fair to open imposing markets in the form of tough, strong, extruded threads and filaments. They have already been used as artificial rattan in the cars of New York's new subway.

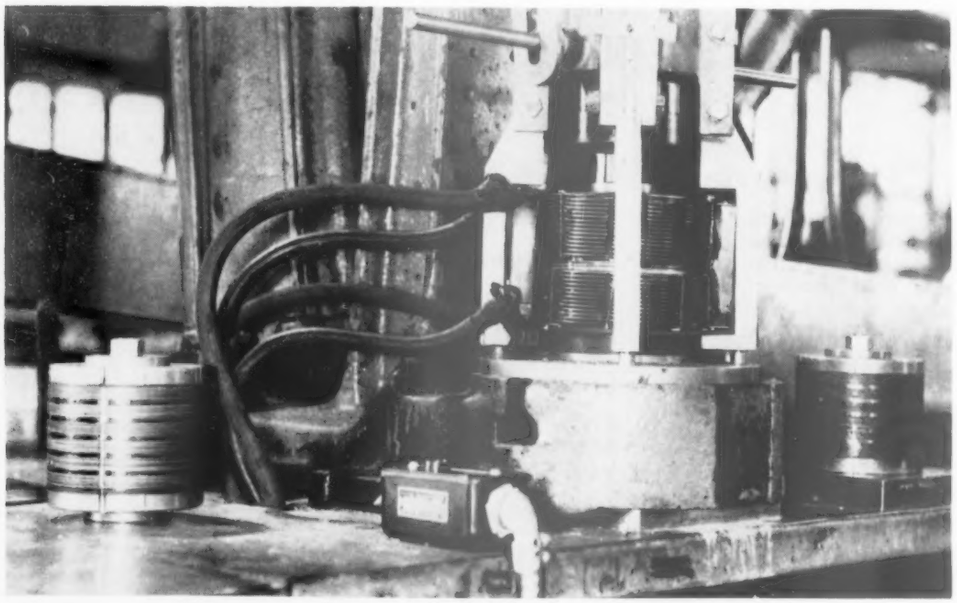
Still another synthetic resin utilizing ethylene as an essential raw material is the relatively new one commonly known by its chemical name, polystyrene. This glass-like transparent plastic is produced by cracking ethyl benzene which, in turn, can be obtained either by reacting benzene with ethylene directly or by reacting it with ethyl chloride made, for example, by addition of hydrochloric acid to ethylene. Polystyrene is relatively hard and tough and is available in any color, as well as in transparent form. It is almost as light as water and because it is a hydrocarbon it is also extremely water resistant. It is especially well suited for electrical applications in radio and television, for its dielectric properties equal those of fused quartz. It has been on the market for only a little more than three years, but it is estimated that about 1,500,000 lbs. were produced in this country last year.

There are other resins which utilize ethyl chloride as an intermediate. Among them, ethyl cellulose is a newcomer. It is employed in molding powders, lacquers, and transparent "cellophane"—like foil. It may be noted that ethyl chloride, produced to the extent of about 65,000,000 lbs. annually, is an intermediate for the manufacture of many non-resinous chemicals of commerce, such as lead tetraethyl.

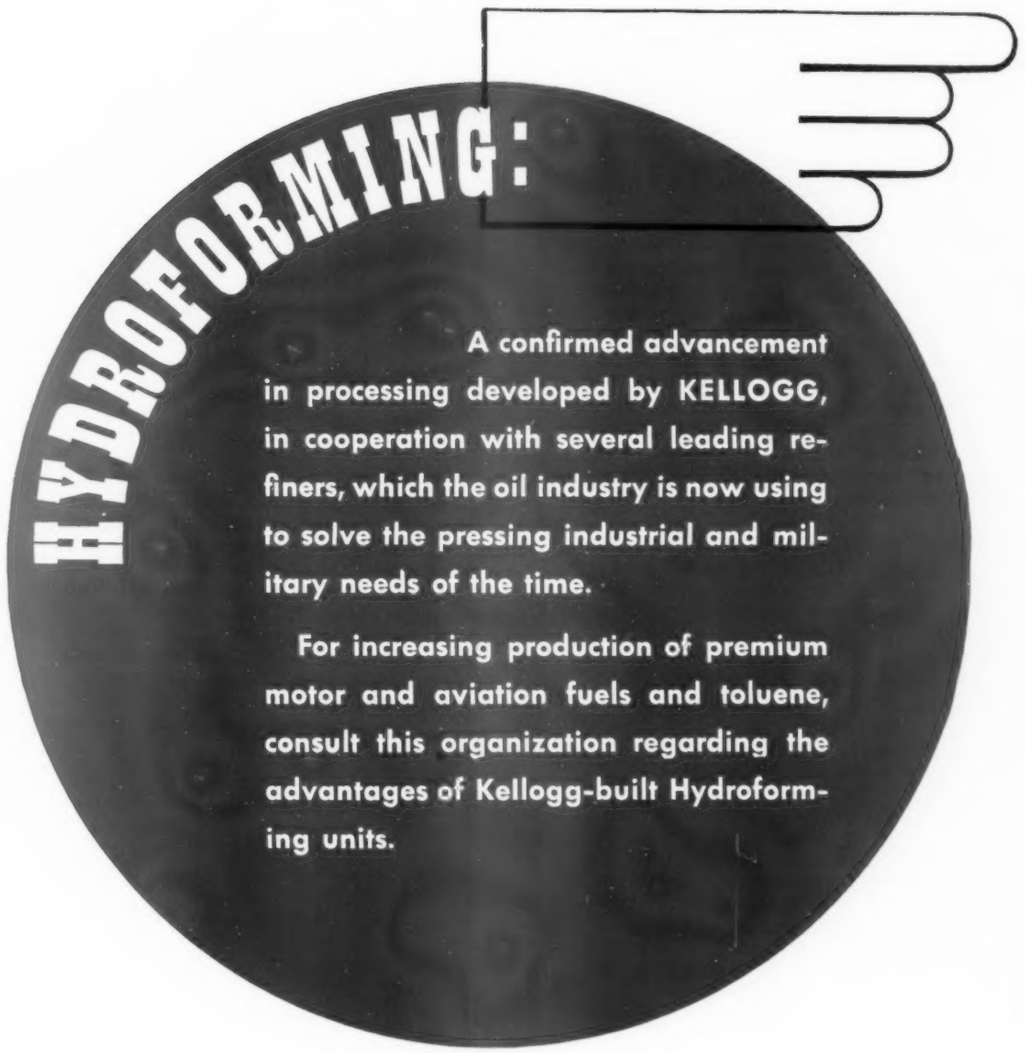
Another ethylene derivative, acrylonitrile, has appeared upon the domestic scene during the past year and is fast assuming a position of importance in the synthesis of some of the new butadiene rubbers.

Other resinous substances are made from ethylene dichloride by reaction with aromatic hydrocarbons and are used in compounding oil-resistant natural rubber articles and in manufacturing electrical products, while still others are made by reacting this dichloride and related compounds with sodium polysulfide, yielding extremely oil-resistant "synthetic rubbers" known as "Thiokol."

Not only ethylene but also propylene and the butylenes have become important raw materials for the production of a great variety of chemicals. Among those derived from propylene, isopropyl alcohol is the oldest, having been manufactured in this way for nearly 20 years. The volume has increased from 37,500 gals. in 1922 to 27,500,000 gals. in 1939. This remarkable increase in production has resulted from expanding applications made possible by price reduction from $2.00 to 31c per gal. during the same period. Its application as an antifreeze and as a solvent are only two of the many which it has found. Acetone is now made from it at a cost which is not only com-



"Vinylite" resin adhesives are increasingly important for use on metals, being used in the small motor cores in the illustration, to bond and insulate the laminations. Cores treated with this adhesive are shown before, during and after assembly by heat and pressure, in the left, center and right of the picture respectively. (Photo by Ajax Electrothermic Corp., Trenton, N. J.)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petitive with that of older methods, such as corn-starch fermentation, but which has lowered the cost of this widely used solvent to such a point that it can be used as an intermediate for the production of cheap acetic anhydride, which is now selling at a figure about equal to one-third its 1930 quotation.

Acetic anhydride is required for converting cellulose to its acetate. Because of the lowered price of this chemical, the production of cellulose acetate has increased progressively. Last year it reached an all-time high of 175,000,000 lbs., reflected in a 30,000,000-lb. increase in acetic acid and its anhydride over the 1939 figure. Cellulose acetate is used in moldings ranging from transparent oil cans to automobile steering wheels, light shades, and boudoir mirror frames. In transparent sheet it has opened large markets in the packaging field and as filament it has become well established as an artificial silk, a use which is expanding annually.

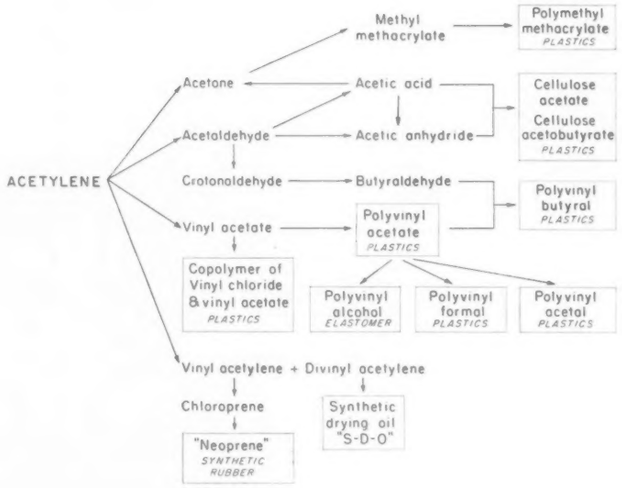
The sphere of influence of cheap acetone from propylene in the world of plastics, however, is not limited to cellulose acetate. It is also an intermediate in the manufacture of the transparent methacrylates known as "Lucite" and "Plexiglas," of which about 3,000,000 lbs. were made last year. The exceptional clarity of these resins, exceeding that of glass, has resulted in numerous applications in the fabrication of lenses, shatterproof airplane windows and cockpit enclosures, and light bending and reflecting devices such as surgical instruments, edge-lighted signs, and novel furniture.

From the butylenes have come a number of the new elastomers, or rubber-like materials. Polyisobutylene, sold under the trade name "Vistanex," is used in lubricating oils and asphalts to flatten their viscosity curves, while butadiene is obtained by dehydrogenation of the other butylenes. Butadiene is the fundamental building block in the synthesis of the "Buna" rubbers, "Perbunan," "Hycar," "Ameripol," and "Chemigum," of which we have heard so much in connection with the National Defense program. Copolymerized with butylenes, butadiene also yields "Butyl Rubber." All these products can be vulcanized like natural rubber. Some of them are superior to rubber in oil and abrasion resistance, while others can even be used in making articles capable of conducting electricity. When one considers that the American consumption of natural rubber is in the order of 600,000 tons annually, it can be seen that the potential market for butadiene is very great and that its role in National Defense is of prime importance.

Many other chemicals have been developed from propylene and the butylenes. Some of them, like secondary butyl alcohol, its esters, and methyl ethyl ketone, have become well established as solvents and as intermediates in the production of such chemicals as rubber accelerators. The recent perfection of methods for manufacturing inexpensive isopropyl ether from propylene and the discovery of its rather astonishing anti-knock characteristics which adapt it for use as airplane fuel are already trite.

During the past few years many new derivatives of these olefins have been introduced by the Shell interests. Besides new products, chemicals already made in other ways have been manufactured from them. Synthetic glycerine, for example, has recently been announced. The selling price of glycerine has fluctuated erratically during the past 20 years between 10c and 32c per lb. The economics of synthetic glycerine production involve evaluation of present and potential glycerine manufacture by the soap and fat-splitting industries, taking into account the possible decrease in soap requirements owing to increasing production of synthetic detergents and augmentation in the number of municipal water-softening plants. It is necessary to consider the effects of price stabilization by synthetic glycerine production, a factor of particular importance in wartime economy. Moreover, it is essential to estimate the probability of new large volume

Plastics Derived from Acetylene And Some of Their Intermediates



applications which can result from enlarged production at reduced and stabilized cost. Besides its many well known uses in the explosives, cosmetics, and printing ink industries, it is also used as a humidifying agent for tobacco, as a plasticizer for cellophane, and in the production of alkyd resins. The last two applications consume approximately 25,000,000 lbs. a year, with present trends toward an annual increment of 3,000,000 to 4,000,000 lbs. The alkyd resins are sold under many trade-names, such as "Glyptal," "Beckosol," "Esterol," "Rezyl," "Dulux," and others. They are used principally in synthetic coatings, especially in the automotive field. American production in 1939 was 76,000,000 lbs.

The higher olefins have not been as extensively applied in chemical synthesis as those containing 4 carbon atoms or less, but alcohols and phenols have been introduced which are made from the amylenes and hexylenes. Other applications of higher olefins and diolefins include varnish resins, such as "Santo Resin," made from specially cracked petroleum fractions, and synthetic drying oils which, produced by polymerization of highly cracked distillates with fuller's earth, serve as substitutes for linseed and tung oils and are reported to have been marketed at about 6 times the price of gasoline.

Oxidation of Paraffins

The oxidation of methane can be carried out either directly by means of atmospheric oxygen, or by reaction with steam or carbon dioxide. In the latter case, organic compounds are not produced, but, rather, water gas. This process is worked extensively, particularly for the production of hydrogen for hydrofining. A portion of our present supply of synthetic methanol also comes from water gas produced from natural gas. Where methane and the higher paraffins are oxidized by means of atmospheric oxygen, organic chemicals are formed but the engineer is hampered by the difficulty of directing and controlling the reaction in such manner that technically pure compounds or usable mixtures are produced. In the case of methane, danger of explosions constitutes a hazard. A few years ago, however, it was announced that one of the Mid-Continent oil and gas companies had begun operation of a process in which natural gas was partially oxidized under pressure. Little information has since been published concerning its development, but it has apparently turned out to be a paying venture. Probably all the lower paraffins up to C4 are oxidized in this process, because the products include alcohols and ketones which are sold for solvents. Formaldehyde, one of the principal prod-

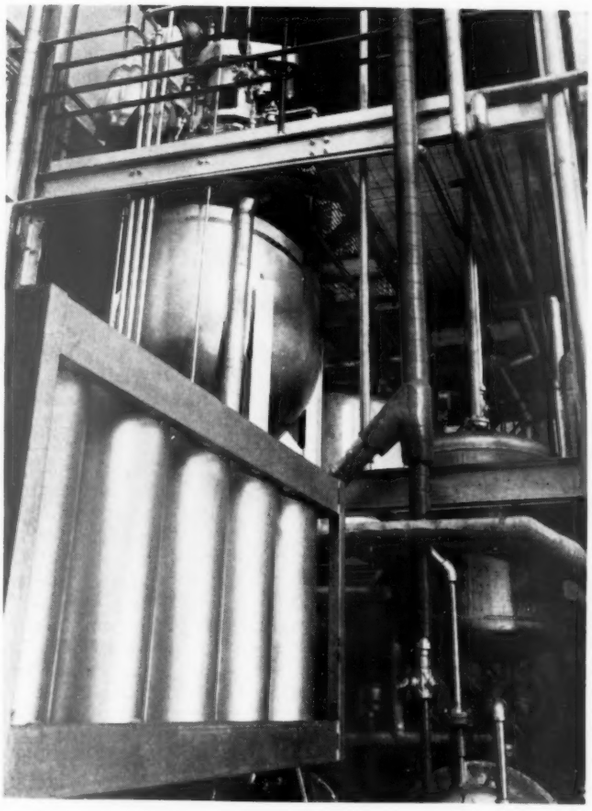
ucts, is manufactured in considerable amounts at a cost competitive with that of making it by oxidation of methanol.

While formaldehyde has many industrial applications, the plastics industry accounts for the major portion of our domestic consumption. It is an essential component of all the so-called "thermosetting" plastics. The unique feature of resins of this category is that, although they soften or melt upon limited application of heat, upon continued heating they solidify again while hot, yielding hard, insoluble and infusible masses which will not melt below their temperature of decomposition. Articles molded from thermosetting resins are therefore characterized by superior resistance to heat and solvents—properties which can be varied extensively by altering the chemical nature of the resin and by varying the filler that is physically admixed therewith.

At present, there are three classes of commercial resins which are thermosetting in character; namely, the phenolics, ureas, and melamines. The phenolics were the first purely synthetic resins to be produced, being the result of American research and development. Sixty-six million pounds of these resins, of which "Bakelite" and "Durez" are well-known examples, were manufactured in the U. S. during 1939. For years they have been employed in molding black and brown objects ranging from buttons and ash trays to electrical fixtures, telephone sets, radio cabinets, and even coffins. Washing-machine agitators, vacuum-sweeper hoods, and rayon-spinning reels are typical examples of applications for special grades of phenolics which are required to withstand unusually severe service conditions. The phenoplasts, as these resins are sometimes called, are likewise employed in the manufacture of laminated sheets, rods, and tubes based on impregnated cloth and paper, sold under many trade-names, such as "Micarta" and "Formica." In this form they possess superior strength characteristics imparted by the lamellar base material and find application for decorative purposes in table tops, shelving, and wall-panelling. Industrial uses include water-lubricated bearings for marine service, rolling mills, and paper mills. One of their earliest applications was in the silent gear of the automobile timing train. A current development is phenolic-impregnated laminated wood veneer for airplane fuselages.

The urea resins, such as "Plaskon," also require formaldehyde for their manufacture. It is of interest to note that urea, the other intermediate used in their production, is made by high-pressure synthesis from carbon dioxide and ammonia. We have already seen that part of the domestic supply of ammonia is manufactured from natural gas and air. The ureas are used, particularly, for molding articles where pastel shades are required. Such light colors cannot be had in the phenoplasts. Light reflectors and housings for butchers' scales are typical examples of their application. The ureas are also used in combination with other resins for the manufacture of refrigerator and automobile lacquers, as are also the newest addition to the family of thermosetting

Making Synthetic Rubber From Butadiene



Plant for the continuous production of buna synthetic rubber. Materials used are 80% butadiene, an intermediate by-product secured from gas from refinery cracking stills, to which styrene or acrylonitrile, coal tar derivatives, are added. Through copolymerization, one molecule of the coal tar derivative is combined with 2 butadiene molecules, to form a complex rubber molecule. Plant is that of the Firestone Tire & Rubber Co., Akron

Coagulating the synthetic rubber before it enters the regular rubber manufacturing process

resins, the melamines. Urea resins are, moreover, employed as textile-finishing agents, while still another application lies in the production of adhesives possessing remarkable bonding strengths. Before the present war, it was reported that 200 000 lbs. of such glue was being consumed monthly in Germany for airplane manufacture.

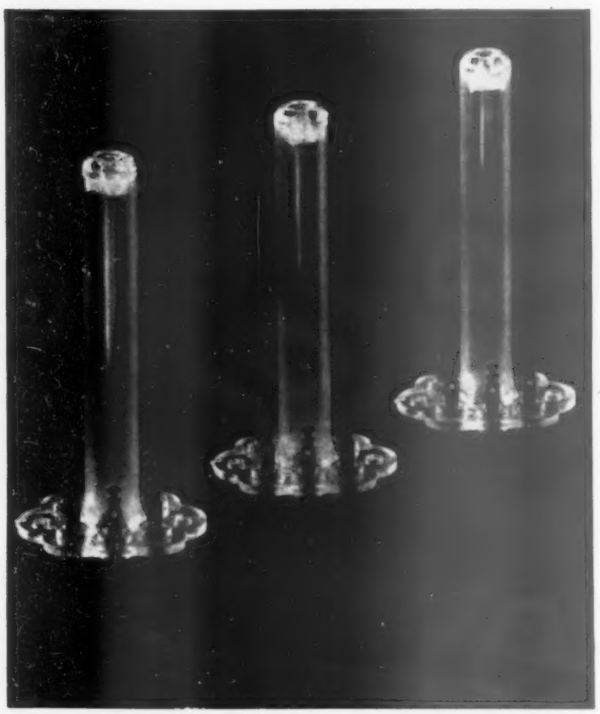
While the oxidation of natural gas has thus far been stressed by applied chemistry, the higher paraffins have also been oxidized to a limited extent. For some years, a mixture of oxygen-containing compounds sold under the trade-name "Aldehol" has been produced in this country by vapor-phase oxidation of gas oils. Its most important use as an alcohol denaturant, but suitable selection of charging stock yields a wide range of nitrocellulose solvents and plasticizers.

In both Germany and Russia, higher fatty acids are manufactured in substantial amounts by oxidation of paraffin oils and waxes. They are employed in soap-making and in the food fats industry. The elimination of disagreeable taste and odor has been a difficult problem in such operations. Related products have been manufactured elsewhere for use in improving the "oiliness" of petroleum lubricants.

Chlorination of Paraffins

A vast amount of research has been conducted through the years in an attempt to develop satisfactory methods for chlorinating methane. While all 4 possible chlorinated derivatives have been studied, work has been directed particularly toward the manufacture of methyl chloride, a necessary intermediate for the synthesis of many industrial chemicals, as well as an important refrigerant. No procedure appears yet to have been developed which can successfully compete with other methods for making this compound. Shortly after the First World War, a commercial process was worked for a brief time in which methyl alcohol was made by hydrolysis of methyl chloride produced by direct halogenation of methane, but the advent of less expensive synthetic methanol made by high-pressure hydrogenation of carbon monoxide rendered the former operation uneconomical and it has been abandoned.

The first really successful process for the chlorination of paraffin hydrocarbons was that developed by the Sharples Solvents Corp. for the production of amyl chlorides from the pentane cut of natural gas gasoline. Various monochlorpentanes are the principal products, but, in addition to them, dichlorpentanes and trimethylethylene are formed as less desirable but usable by-products. Some of these chlorinated derivatives, especially the dichlorides, are utilized directly as solvents. Most of them are converted into other chemicals which find highly diversified uses such as lacquer solvents and plasticizers, odorants for domestic gas, ore-flotation agents, and components of oil-soluble phenolic resins employed in the manufacture of spar varnishes and other paints and lacquers. Over 30 chemicals derived from the pentanes are now commercial products, while many others are available as semi-commercial products or laboratory developments which will become available in carload lots if and when large-scale uses are developed.



Coil forms of polystyrene, the electrical properties of which are without rival in the field of plastics, used on RCA Victor television receivers. (Photo by Bakelite Corp.)

The chlorination of both propane and isobutane is now also carried out on a commercial scale. A critical study of the controlled chlorination of propane has resulted in a method for manufacturing an interesting chemical otherwise difficultly accessible and expensive, namely, 1,3-dichlorpropane. By means of a very simple reaction, this dichloride can be easily and almost quantitatively converted into the simplest naphthenic hydrocarbon, cyclopropane, a compound that current medical examination has shown to be an exceptionally promising anesthetic.

Monochlor derivatives of isobutane are used in the synthesis of teritary butylphenol. This compound, like tertiary amylphenol, is an important raw material for the production of phenolic resins which, unlike those used for molding and laminating purposes, are soluble in oil. These resins, either alone or in combination with other plastics, find use in many fields, including leather coatings, artificial leather, printing inks, automobile lacquers, and quick-drying paints and varnishes.

Thus far chemical architects have drawn primarily upon the paraffins containing 5 carbon atoms or less in the production of chlorinated derivatives. This fact can in part be explained by the greater ease of separating these hydrocarbons into fairly distinct individuals from which pure chemicals can be made. While predictions of the direction of chemical technology are hazardous, there are many reasons to suppose that the future will see much more intensive effort to utilize the higher paraffins, not only by chlorination, but also by other reactions. The current development of higher paraffins as undertaken by the Kendall Refining Co. is of significance here, because it is an important step in the direction of separating more or less homogeneous higher hydrocarbons of standardized quality—a necessary prerequisite for the production of most chemicals.

What can be done with the chemical utilization of the higher paraffins remains to be seen. A few recent trends may be cited as straws in the wind. The Hooker Electrochemical Co., for example, is now marketing a series of high-boiling plasticizers made by the chlorination of paraffin wax. These materials range in chlorine content from 30 to 60% and in fluidity from viscous liquids to solids. They are compatible with a large number of synthetic resins. By chlorinating higher boiling petroleum oils or paraffin wax, and by condensing the products with various aromatic compounds under the catalytic influence of aluminum chloride or analogous compounds, a number of commercial products are being made. "Paraflow," well known to the petroleum industry as a pour-point depressor, is one such material of hydrocarbon nature. An imposing series of patents has been issued of late for the production of alkylated phenols and analogous compounds, of use in the synthesis of oil-soluble phenolic resins and, in the form of sulfonated derivatives, as wetting agents, emulsifying agents, and detergents. Important markets have already been opened for compounds of this class.

Nitration and Sulfonation of the Paraffins

In the evolution of the facile chemistry of benzene compounds, chlorination is paralleled in importance by

(*Continued on page* R-237)

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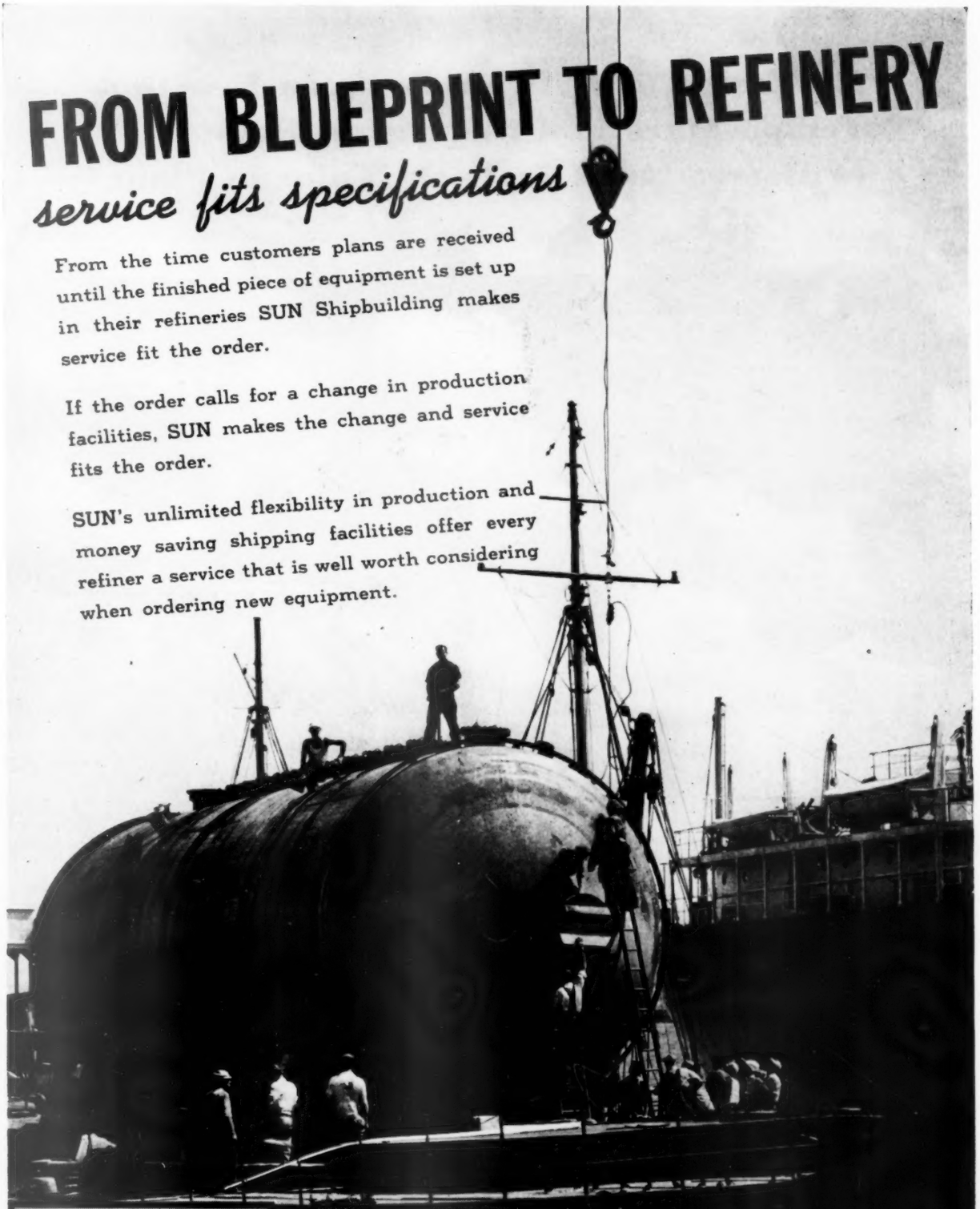

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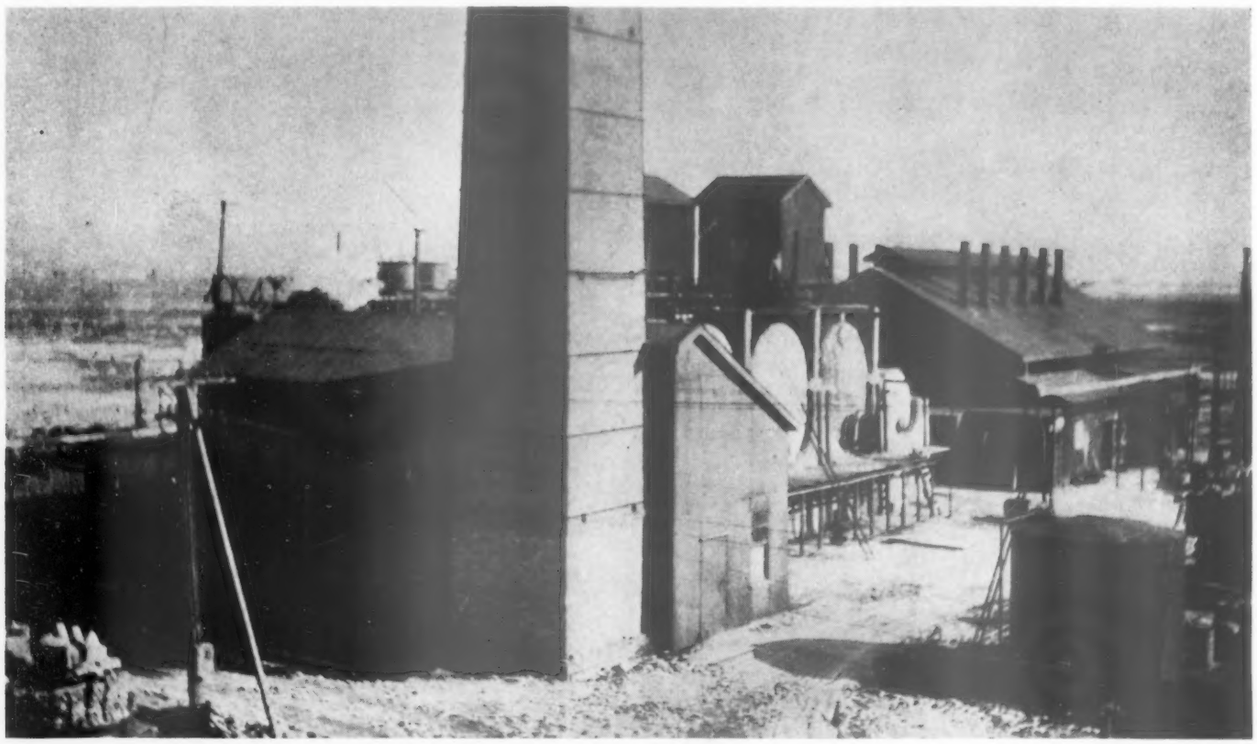
Balance Was Delicate Between Reaction Temperature and the Fusion Point of Retort Metal in Early Toluene Plant



The plant built by the Standard Oil Co. of California, at the start of the last war, to produce toluene from petroleum. In the foreground are the boiler house and benzol stills. In the background is the retort house

In the nation's defense program today, the petroleum industry, thanks to the groundwork of its research chemists, is able to supply raw materials and methods of processing, to turn out toluene and other chemical products needed, almost as a routine operation.

It was entirely different, however, 25 years ago, when an oil company first undertook the development of a process to supply toluene, to meet an urgent war demand for explosives. Two oil technologists who had a prominent part in the experimental work and the design of the first commercial plant, tell the story of the achievement in the accompanying article.

John B. Terry* and Charles K. Parker*

SHORTLY after the beginning of the war of 1914-1918 it became impossible to import certain materials, and, since foreign supplies were no longer available, it became urgent that sources of supply be developed in the U. S. One such product was toluene, which was of vital importance in the manufacture of munitions. Because of limited production of coal-tar toluene in this country, and the desperate need of the Allies, the price skyrocketed. Within a few months it advanced from a normal price of 30 cents to the fantastic figure of $9 a gallon, later settling back to $3 and finally, after about two years, to $1.50 a gallon—a top price fixed by the government.

The Standard Oil of California undertook the development of a process for the production of toluene from petroleum, but, except for a few data developed experimentally in their laboratories and some obscure references in the literature, there was no very definite point from which to start. Today, with the knowledge and processes developed through years of research, and with improved materials, equipment and instruments, such an undertaking might be considered a more-or-less routine matter.

It had been recognized that certain California petroleum oils contained small amounts of aromatic compounds. The earliest company record of the isolation of these compounds is an unpublished report of E. A. Starke, who, in 1902, isolated and identified xylene and other homologues obtained by hydrolysis of kerosine sludges. Early experiments in the company laboratory in the elementary analysis of petroleum hydrocarbons had indicated that, under certain conditions, volatile petroleum fractions were only partially oxidized and that small amounts of aromatic aldehydes might be condensed in the absorption train of the apparatus. Eventually a small quantity of these aldehydes was

*Standard Oil Co. of California.

collected, and the vapor of this product, after passing over heated quartz, was found to yield minute amounts of true aromatic oils, together with an equivalent quantity of carbon monoxide.

The experience of the analytical laboratory in the accidental production of aromatics by partial oxidation of petroleum distillates was recalled, and experimental work was begun to determine the possibility of converting petroleum into toluene and other aromatics. This work resulted in the development of a process by F. W. Mann and M. L. Chappell (patented in 1917 under U. S. Patent No. 1,214,-204), and it is noted that the experiments antedated or were contemporaneous with those of Rittman, Dutton and Dean, as recorded in U. S. Bureau of Mines Bulletin No. 114.

In the first experiments a gas-fired combustion furnace was set up with a section of one-inch iron pipe replacing the usual combustion tube. Oil was fed into one end of the pipe by means of a separatory funnel, and the other end was connected to a Liebig condenser and a receiver. Attempts were made to determine temperatures by means of a glass thermometer having a range to approximately 1000° F., inserted into the pipe by means of a "T" connection. It was soon learned, however, that a temperature of approximately 550° C. was not adequate, and thereafter, and until pyrometers could be obtained, temperatures were estimated by observing the color of the retort tube.

In the first run a light petroleum distillate was introduced, dropwise, into the tube, which held at a dull red heat estimated as approximately 700° C. Dark brown vapors passed into the condenser and a brown condensate was caught in the receiver, but a large amount of fixed gas, together with a brown mist, passed on through the condensing system. On the next run an absorber filled with "Mineral Seal" Oil was added to the condensing system and a slight vacuum was maintained on the receiver in order to avoid back pressure on the tube and to insure a positive flow of vapors through the condenser. The condensate from several runs was collected and fractionated into cuts at 100, 130 and 160 degrees C., leaving a tarry residue. These cuts were treated with sulfuric acid for the removal of unsaturates and were redistilled for further purification. Examination by usual chemical and physical tests indicated that they were in fact chiefly aromatics, and a large number of runs was then made to determine the optimum retorting temperature.

After learning that the most efficient temperature was in the order of 700° C., attempts were made to determine the effect of various catalysts or potential catalysts on the conversion rate, and several materials were tried. The tube was packed with substances such as broken quartz, iron oxide, broken firebrick, and firebrick impregnated with nickel oxide. Numerous runs were made with the various materials, and, while results were not definite enough to distinguish between catalysts, it was determined that a yield of approximately 40 per cent of crude material could be expected. The results, while erratic, showed that the tarry distillate obtained would, by fractionation and purification, yield about 10% each of benzene and toluene with a smaller amount of the mixed xylenes.

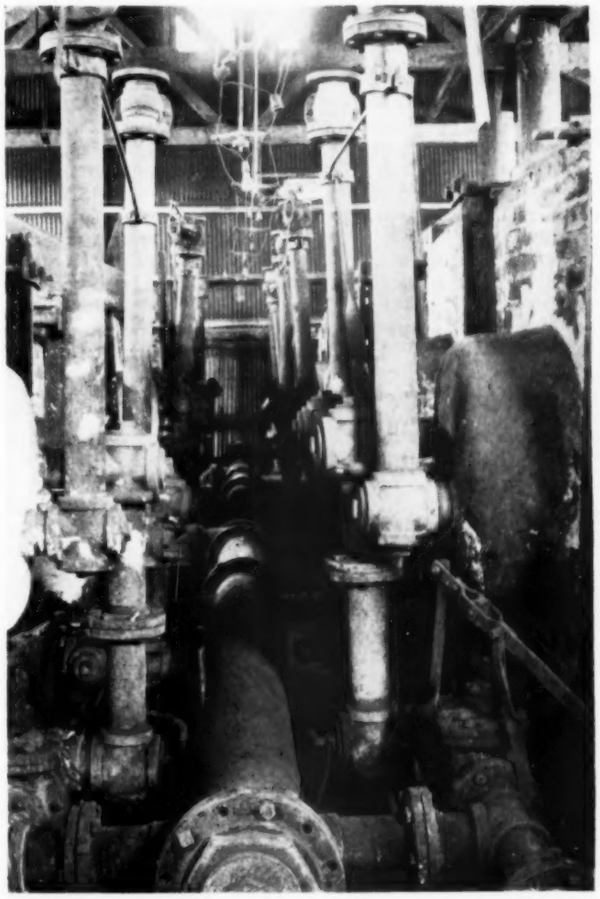
Enough runs were made to permit the purification of a small amount of toluene meeting the rather rigid requirements of explosive manufacturers, and a sample of this was submitted to a nearby powder company for tests as to its suitability for the manufacture of trinitoluene. The first report was that it could not be nitrated, but our own chemists disproved this by nitrating it and a later sample was approved by the powder company.

In view of the encouraging results, decision was made to construct a semi-commercial unit or pilot plant, and the design of this unit followed closely that of the laboratory experiment, although immeasurably complicated by the problems of suitable material and operating control of the larger retort. This pilot plant was a heavy cast-iron tube, 16 ins. in diameter and approximately 14 ft. long, mounted in a setting designed to insure practically uniform temperature throughout its length. This tube or retort was packed with a "checker work" of firebrick previously impregnated with nickel nitrate designed to supply the supposedly necessary nickel oxide as catalyst.

The first single retort, operated as an experimental unit, was used to study the various problems of control, such as rate of feed and temperature. With this unit it was learned that the packing material should not be extended too close to either end of the retort. In fact, in the final design, before the construction of the commercial plant, it was learned that only approximately the middle two-thirds of the retort should be so packed, thus avoiding in large measure the accumulation of carbon at the feed end and insuring more or less uniform temperature in the reaction space at the discharge end.

The introduction of the oil into the retort offered a serious problem. It was at first introduced through a simple inlet pipe, but it was soon found that the tendency of the oil to flow along the bottom of the retort resulted in a large accumulation of coke and relatively small yields. Finally the feed oil was introduced into the retort by means of a spray nozzle, the feed being atomized by a measured quantity of air, as prescribed in the patent of Mann and Chappell. The supposition was, of course, that the partial combustion of the oil resulted in the actual removal of hydrogen. Whatever the merits of this supposition, the fact remains that the temperatures were much more easily controlled, without destruction of the cast-iron retorts, where the internal firing was employed. This retort produced considerable quantities of the various aromatics; enough, in fact, to permit working out a purification process and to furnish data for the operation of the larger unit contemplated.

It was learned from the operation of the pilot plant that it was necessary to protect the cast-iron tube from



Discharge end of horizontal retort, showing main vapor line

Gas absorber column

excessive local heat in order to avoid fusing. This problem was solved to some extent by encasing the tube throughout its length in refractory material, so that the flame never impinged on the bare iron, and after the adoption of this plan the average life of the tubes was increased from a matter of a few days to several months. Experiments were made to develop a retort which would not involve the use of cast iron or cast steel, and one such retort was built of brick. This, however, in spite of careful firing and temperature control, developed serious cracks so that it was never possible to make it tight, and the use of the cast iron retorts was continued.

Various suggestions were considered toward improving the vaporization of the feed oil, and in one instance the feed tank was imbedded in the brick work of the furnace in order to preheat the oil before introducing it to the retort. It was unfortunate that no provision was made for control of the temperature and, after an explosion of the oil container, this scheme was abandoned and the original practice was resumed of spraying the oil into the retort through a typical oil-burner nozzle.

One serious problem in the process was the removal of the carbon which was formed in the retort. This, of course, is readily recognized today by anyone having experience in the operation of cracking plants, but at that time it was a new problem. It was solved by adopting the current practice of gas manufacturers of "blasting" the carbon out in a regular cycle, and the final practice consisted in introducing the feed oil for 35 minutes of each hour, followed by a 25-minute air-blasting, which was sufficient to remove the accumulated carbon.

Another serious obstacle encountered was the accumulation of heavy tar on the inside of vapor lines and the gradual hardening of this material into coke. In the experimental plant this was periodically removed by shutting down the retort and burning out the accumulation with air. This was fairly satisfactory but rather hard on the pipelines and was later modified in the large plant.

After two or three months of operation of the pilot plant work was begun on a large plant with 12 retorts. These retorts were only slightly different from the experimental unit and consisted of 18-in. cast-steel pipes approximately 16 ft. long, packed as previously determined with the "checker work" of firebrick coated with nickel-oxide catalyst. These retorts were set in two opposed banks of six each, the individual retorts being set in pairs on a common foundation. All were fired individually, and each was so surrounded by flues that practically uniform temperature was maintained throughout its length.

During the period of construction of the large plant, the pilot plant was continued in operation, for the purpose, primarily, of training operators, although during this period considerable additional information was obtained. In particular, devices were originated for the metering of feed oil, air and steam, and about this time base-metal pyrometers became available so that positive temperature indications were obtainable.

The large plant was placed in operation on July 15, 1915. The 12 retorts were connected to a main 8-in. vapor line and so arranged that each retort could be closed off with a vapor line valve and vented to the atmosphere for burning out coke deposits. The vapors passed through a series of "tar pots" to a compressor, which maintained a vacuum of 1.5 ins. of mercury on the retorts and discharged under a pressure of 100 lbs. per sq. in. into a pressure condenser from which uncondensed gas was released to a vent line. The gas was later burned as fuel under the retorts.

Trouble had been encountered in the pilot plant resulting in the accumulation of tar, and later coke, in the vapor lines and valves leading to the condensing system. Many methods of cleaning were tried but none was successful until it was realized that the carbon deposits were first built up as heavy tar, which was later converted to coke by the high temperature. When this was determined a stream of heavy solvent oil was introduced into the vapor lines as close to the retorts as possible. This immediately solved the problem and also reduced the load on the condensing system. The solvent oil was recirculated through a cooling coil and served to remove the heavy tar continuously so that vapor lines and valves were kept clean. The only exciting thing about the system was that occasionally an operator would cut the retort off the system and open it to the air for burning out coke without shutting off the circulating oil, which would thereupon blaze out of the vent pipe. This was the first plant in the refinery which had been operated at such high temperatures and with so many novel features, and small fires were frequent.

As is usual in an untried process, great difficulty was encountered in the training of operating personnel. Alloy steels for oil refineries had not yet been thought of, and the "stainless" steel now in common use was only a kitchen curiosity. The requirement that the temperature of the reaction zone be held very close to 700° C. meant that the walls of the tubes were heated to dangerously near the fusion point of the cast iron, and only after some time did the operators learn how to regulate their fires so as to maintain the rather delicate balance between the reaction temperature and the melting point of the metal. The advent of the 12-point recording pyrometer helped immeasurably in obviating this trouble, since by its use it was possible to train the operators much more intelligently. In fact, the normal life of the retort tubes was extended to a period of 5 or 6 months, and several, with an occasional welded patch, lasted over a year.

This plant, substantially as first built, continued in operation for nearly four years—1915 to 1918 inclusive—

and during its entire life produced several hundred gallons of toluene daily, in addition to similar quantities of benzene and the xylenes. Naturally, other forms of retort were tried, including one based on the Jones "All Oil Water Gas Apparatus", which was moderately successful. However, the original design was the real producer throughout the whole period of heavy demand for toluene; although the "vertical retort" so called was operated to supplement the yield of the older installation.

The refining of the crude benzol did not present any great deviation from the customary practice as described in the literature on refinement of coal tar. The crude benzol was distilled in shell stills equipped with a rather poor fractionating system. The cut from start to 160° C. was known as "benzol distillate," the next cut carried the residue down to a hard pitch and was known as "heavy solvent oil." The heavy solvent oil was sold as a solvent in the trade after naphthalene had been allowed to crystallize out in the storage tanks. A small amount of the naphthalene was resublimed and used during the war in refinery compounding. The pitch was used in preparation of corrosion-resisting paints or cut back with oil and used as fuel.

The benzol distillate was refined by treating with sulfuric acid at the rate of 0.5 pound of 66 Baume acid per gallon of distillate in an agitator with a circulating pump for agitation. Extreme care was necessary to avoid loss by vaporization and the incidental fire hazard, because of the heat generated by the reaction between the sulfuric acid and the unsaturated hydrocarbons in the distillate. After acid treatment, the distillate was washed with a solution of caustic soda and redistilled in a "roughing" still equipped with a fractionating column of limited efficiency. In this still the cuts were as follows:

From start to 100 degrees C.
100 to 130 degrees C.
130 to 160 degrees C.

The bottoms were pumped into the heavy solvent oil. The cuts so obtained from the roughing still were refractionated in a steam-heated Lummus still which was equipped with a 13-plate column, to make C. P. benzene, toluene and xylene. These products conformed to the current specifications for the "chemically pure" compounds.

The plant described would not compete with the present catalytic processes and in the light of today's knowledge would appear rather crude. When it is remembered that the process was developed in a matter of months, with no background of knowledge of cracking, with no materials other than brick and cast iron, with no modern instruments, and at a time when the oil business was not particularly concerned with research, it remains an achievement of which those who were concerned with it can be proud.

The authors wish to express their appreciation to the chemical and research staffs of the Standard Oil Company of California for their assistance in the preparation of this paper.

Plastics and Chemicals from Petroleum Bases

(*Continued from page* R-232)

nitration. Although the early pages of organic chemistry are dotted with references to the preparation of nitrocompounds from the paraffins, the infatuation of industrial workers with the clean-cut methods of nitration in the benzene series deterred them from prosecuting commercial application of similar but less productive operations in the paraffin series. Moreover, it was not generally recognized that a different technique was required for the two series. The spell has at last been broken and, within the past year, we have seen large-scale manufacture of nitromethane, nitroethane, and the nitropropanes by vapor-phase nitration of the hydrocarbons of natural gas. From these compounds a great variety of other derivatives can be prepared which offer promise in many fields, such as adhesives, protective coatings, selective solvent refining processes, plastics, detergents, cosmetics, insecticides, fumigants, pharmaceuticals, and textiles. The search for markets is on. Their use is small today, but rarely has a new group of compounds with unique characteristics been offered at attractive prices that they have failed to find their place among the important chemicals of commerce.

This paper is limited to a survey of the chemicals produced from paraffinic hydrocarbons and their olefinic derivatives, but brief mention should be made at this point of TNT manufacture by nitration of toluene from petroleum. Because of far-reaching scientific and technologic developments since 1918, such work is now expanding far beyond its limited application during the First World War.

In spite of the extensive use of sulfuric acid in the refining of petroleum products, the possible chemical utilization of sulfonated paraffin hydrocarbons has as yet scarcely been touched. Aside from the therapeutic agent, ichtyol, the only sulfonated petroleum derivatives of importance today are the complex mixtures known as "green acids" and "mahogany acids" or their salts, produced during refining operations. They are used for splitting fats and in textile oils, metal-cutting oils, emulsifying agents, wetting and foaming agents, pickling inhibitors, and dust-laying compounds. It seems reasonable to expect more important chemical developments in this field during the next decade.

Conclusion

The past 20 years have seen the rapid growth of a highly diversified American chemical industry stemming from petroleum and natural gas. This development has been made possible largely because of the amazing progress which has occurred in the refining and fractionating of petroleum products. Great as these achievements have been, we may look forward confidently to equally spectacular results from future expansion of the chemical utilization of oil and gas, based upon sound economic principles.

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NPN SEMI-ANNUAL SUBJECT INDEX

Of Refining Technology Articles

January-June, 1941

Index Number	Subject	Issue	Page
210.	**Physical Properties of Petroleum.**		
	Motor Oil Oxidation Predictable By New Test, Chemists are Told	Apr. 16,	R-114
214.	**Changing Phase Properties.**		
	.31 Distillation Apparatus and Tests.		
	Close Fractionation Obtained With Stedman Packed Towers, by L. B. Bragg..	Feb. 5,	R-34
216.	**Other Properties of Liquids.**		
	.12 Viscosimeters.		
	Speeds Viscosity Measurement In Capillary Type Viscometer, by E. H. Zeitfuchs	Apr. 16,	R-121
220.	**Chemical Properties of Petroleum.**		
	Motor Oil Oxidation Predictable By New Test, Chemists Are Told	Apr. 16,	R-114
230.	**Thermal Properties of Petroleum.**		
231.	**Ignition Variables.**		
	.5 Knocking Characteristics—Octane No.		
	Knock of Pure Hydrocarbons, Varies Widely, Tests Show	Feb. 19,	R-63
	.51 Automotive Fuel.		
	New Test Technique Supplies Fresh Data on Fuel Knock, by J. M. Campbell, R. J. Greenshields, and W. M. Holaday	June 11,	R-179
	CFR Tests Correlate Octane Rating With Engine Speed	June 11,	R-177
	Significance to Engine Builders Of the New CFR Technique	June 11,	R-186
	A Single Octane Rating No Index to Road Behavior	June 11,	R-188
260.	**Tests of Various Hydrocarbons.**		
265.	**Lubricating, Transformer, and Switch Oils.**		
	Standard Engine Tests Needed for Motor Oils	May 14,	R-146
	Motor Oil Oxidation Predictable By New Test, Chemists Are Told	Apr. 16,	R-114
266.	**Residuum and Fuel Oils.**		
	Get Cetane Numbers Quickly With New "Cetane Valve"	Feb. 5,	R-44
267.	**Paraffin Waxes.**		
	Improve Pharmacopoeia Tests for Petroleum Products	Feb. 5,	R-47
	Develop Special Paraffins To Compete in Wax Market	Feb. 19,	R-51
610.	**Transportation of Petroleum.**		
611.	**Transportation of Oil in Barrels.**		
	Develop Interior Coatings for Aviation Fuel Drums, by M. G. Van Voorhis...	Apr. 30,	R-130
640.	**Oil Storage.**		
644.	**Steel Oil Storage Tanks.**		
	.6 Maintenance and Repair of Steel Tanks.		
	Air Movers May Replace Steam in Tank Cleaning Preparation	Mar. 19,	R-93
	.61 Painting of Tanks.		
	Lower Tank Temperatures By New Type White Paint	Jan. 8,	R-12
648.	**Losses of Oil During Storage and Means of Minimizing Losses.**		
	.22 Reduction of Tank Temperatures as a Means of Minimizing Evaporation.		
	Lower Tank Temperatures By New Type White Paint	Jan. 8,	R-12
700.	**Oil Refineries and Refinery Practice.**		
720.	**Refinery Process: Theoretical Considerations.**		
	.3 Catalysis of hydrocarbons.		
	Catalytic Refining Developments As Shown by Recent Patents	May 28,	R-173
721.	**Distillation.**		
	.02 Fractional Distillation.		
	Alkylation Feed Stock Produced in Natural Gasoline Plants, by H. W. Harts	May 14,	R-153
	3. Cracking Distillation.		
	Control Point Computed for Cracking Furnace, by R. E. Summers	Apr. 30,	R-143
	.33 Cracking Processes Using Chemical Catalyzers.		
	New Catalytic Reforming Process Easy to Convert to War Needs, by D. J. Smith and L. W. Moore	Apr. 2,	R-98
724.	**Desulphurizing.**		
	Solutizers Improve Treating Of Four Types of Gasoline, by H. N. La Croix..	Mar. 5,	R-72
725.	**Treatment of Distillates.**		
	.33 Phenol and Cresylic Acid Processes.		
	Phenol Extraction Wins Place in Pennsylvania Lube Refining, by D. W. Kenny and W. B. McCluer	Jan. 22,	R-26
729.	**Other Refinery Processes.**		
	.9 Catalytic Processes, General.		
	Obtain Up to 37% Iso-Octane In Catalytic Isomerization, by A. P. Sivertsev..	Mar. 5,	R-68
730.	**Refinery Construction, Equipment and Materials.**		
732.	**Materials Used in Refinery Construction.**		
	.4 Refractories and Heat Insulators.		
	Thermal Insulation Problems Make Selection Complex	Feb. 19,	R-63
	.6 Chromium and Nickel and Related Alloys.		
	Clad Steels Find Place In Refinery Equipment	Mar. 19,	R-82
	.9 Other Materials.		
	Refinery Uses of Molded Carbon Described at W.P.R.A. Meeting, by M. J. Dorcas	Apr. 30,	R-134
734.	**Distillation Equipment.**		
	.2 Heat Exchangers.		
	Air Preheaters for Petroleum Heaters, by L. A. Mekler and H. A. Becker	May 28,	R-162
	Regenerative-Type Air Heater For Refinery is Described, by O. F. Campbell and T. B. Kimball	May 28,	R-168
	.9 Fractionating Columns.		
	Close Fractionation Obtained With Stedman Packed Towers, by L. B. Bragg..	Feb. 5,	R-34

Index Number	Subject	Issue	Page
740.	**Refinery Operation and Control.**		
741.	**Distillation Practice.**		
	.4 Control Point Computed for Cracking Furnace, by R. E. Summers.....	Apr. 30,	R-143
742.	**Operation and Control of Vapor Condensers and Heat Exchangers.**		
	Air Preheaters for Petroleum Heaters, by L. A. Mekler and H. A. Becker.....	May 28,	R-162
	Regenerative-Type Air Heater For Refinery is Described, by O. F. Campbell and T. B. Kimball.....	May 28,	R-168
	.1 Corrosion of Condenser Coils.		
	Sulfuric Acid Treatment of Bicarbonate Waters To Prevent Scaling, by N. Newton	June 25,	R-195
	Water Circulating to Cooling Towers Treated With Chromate, by W. H. Atwill	June 25,	R-198
	Deaerator Retards Corrosion By Removing Dissolved Oxygen, by W. H. Atwill	June 25,	R-201
	Chlorination Controls Bio-Fouling of Water, by D. R. Johnson and C. N. Rhoades	June 25,	R-202
	Cathodic Protection Prolongs Bundle Life, by V. L. Nealy	June 25,	R-206
	Corrosion Classified by Visible Effects..	June 25,	R-207
750.	**Specific Products and Their Manufacture.**		
751.	**Naphthas.**		
	.5 Propane, Butane and Liquid Gases.		
	Alkylation Feed Stock Produced In Natural Gasoline Plants, by H. W. Harts	May 14,	R-153
755.	**Paraffin Wax.**		
	Develop Special Paraffin To Compete in Wax Market	Feb. 19,	R-50
770.	**Condensation of Vapors from Hydrocarbon Gases.**		
771.	**Theoretical Considerations.**		
	.2 Retrograde Condensation of Hydrocarbon Vapors in Production From Deep-Seated Reservoir Rocks.		
	Refiners Indifferent to Recycle-Condensate	Mar. 5,	R-66

(Continued on Next Page)

INDEX TO ADVERTISERS

Refining Technology Section

(*See also page 47*)

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions

American Meter Co. .....
Badger & Sons Co., E. B. .....
Brooks Equipment Co. R-239
Chicago Bridge & Iron Co. .....
Filtrol Corp. .....
Gasoline Products Corp. .....
Graver Tank & Mfg. Co., Inc. .....
Hooker Electrochemical Co. R-239
Jenkins Petroleum Process Co.....
Johns-Manville Co. .....
Johnston & Jennings Co. .....
Kellogg Co., M. W. R-229
Merco Nordstrom Valve Co. .....
Perco Division, Phillips Petroleum Co. .....
Petroleum Rectifying Co. of Calif.....
Shell Development Co. 37
Sun Shipbuilding & Dry Dock Co.....;.....R-233
Taylor Instrument Companies.....
Universal Oil Products 29

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Index Number	Subject	Issue	Page
775.	**Extraction of Gasoline and Other Light Condensates From Natural Gas.**		
.2	**Retrograde Condensation of Hydrocarbon Vapors.**		
	Key to Recycling Efficiency Is Residue Gas Composition	Feb. 19,	R-61
800.	**Utilization of Petroleum and Its Products.**		
815.	**Utilization of Gasoline in Internal Combustion Engines.**		
	No Vapor Lock in New Cars With 25-lb. "Gas" at 30°F., by H. M. Trimble, R. R. Couch and K. C. Bottenberg	Jan. 8,	R-2
	Engine Fuel Problems Pondered by S.A.E.	Jan. 8,	R-6
	Cooperative Research Needed for Combustion	Apr. 2,	R-110
817.	**Power Development With Diesel Engines.**		
	Engine Fuel Problems Pondered by S.A.E.	Jan. 8,	R-6
832.	**Lubrication of Internal Combustion Engine Cylinders.**		
	Poor Cooling, Small Oil Flow Hit in Engine Lubrication	Jan. 22,	R-18
	Protect Diesels Three Ways With 100 V. I. Additive Oil	Jan. 22,	R-21
	Standardized Engine Tests For Heavy-Duty Motor Oil, by C. M. Larson	May 14,	R-150
835.	**Lubrication of Journals, Bearings, Glands, and Spindles.**		
	Copper-Lead Bearing Corrosion Serious in Heavy-Duty Service	Apr. 2,	R-104
890.	**Miscellaneous Other Uses for Petroleum.**		
892.	**Use in Rubber Manufacture.**		
.1	**As a Rubber Substitute.**		
	Synthetic Rubbers Rely on Petroleum, by I. E. Lightbown, and J. A. Britton, Jr.	Apr. 16,	R-126
900.	**Economics of the Petroleum Industry.**		
934.	**Management of Oil Companies.**		
.34	**Safety and Accident Prevention in Oil Industry Operations.**		
	Air Movers May Replace Steam In Tank Cleaning Preparation	Mar. 19,	R-93

NPN SEMI-ANNUAL AUTHOR INDEX

Of Refining Technology Articles

January-June, 1941

Author	Title	Issue	Page
Atwill, W. H.	Water Circulating to Cooling Towers With Chromate	June 25,	R-198
Atwill, W. H.	Deaerator Retard Corrosior. By Removing Dissolved Oxygen	June 25,	R-201
Becker, H. A.	Air Preheaters (also by L. A. Mekler)	May 28,	R-162
Bottenberg, K. C.	No Vapor Lock in New Cars With 25-lb. "Gas" at 30°F. (also by H. M. Trimble and R. R. Couch)	Jan. 8,	R-2
Bragg, L. B.	Close Fractionation Obtained With Stedman Packed Towers	Feb. 5,	R-35
Britton, J. A., Jr.	Synthetic Rubbers Rely on Petroleum (also by I. E. Lightbown)	Apr. 16,	R-126
Campbell, J. M.	New Test Technique Supplies Fresh Data on Fuel Knock (also by R. J. Greenshields and W. M. Holaday)	June 11,	R-179
Campbell, O. F.	Regenerative-Type Air Heater For Refinery is Described (also T. B. Kimball)	May 28,	R-168
Couch, R. R.	No Vapor Lock in New Cars With 25-lb. "Gas" at 30°F. (also by H. M. Trimble and K. C. Bottenberg)	Jan. 8,	R-2
Dorcas, M. J.	Refinery Uses of Molded Carbon Described at W.P.R.A. Meeting	Apr. 30,	R-134
Greenshields, R. J.	New Test Technique Supplies Fresh Data on Fuel Knock (also by J. M. Campbell and W. M. Holaday)	June 11,	R-179
Harts, H. W.	Alkylation Feed Stock Produced in Natural Gasoline Plants	May 14,	R-153
Johnson, D. R.	Chlorination Controls Bio-Fouling of Water (also by C. N. Rhoades)	June 25,	R-202
Holaday, W. M.	New Test Technique Supplies Fresh Data on Fuel Knock (also by J. M. Campbell and R. J. Greenshields)	June 11,	R-179
Kenny, D. W.	Phenol Extraction Wins Place in Pennsylvania Lube Refining (also by W. B. McCluer)	Jan. 22,	R-26
Kimball, T. B.	Regenerative-Type Air Heater For Refinery is Described (also by O. F. Campbell)	May 28,	R-168
LaCroix, H. N.	Solutizers Improve Treating Of Four Types of Gasoline	Mar. 5,	R-72
Larson, C. M.	Standardize Engine Tests For Heavy-Duty Motor Oil	May 14,	R-150
Lightbown, I. E.	Synthetic Rubbers Rely on Petroleum (also by J. A. Britton, Jr.)	Apr. 16,	R-126
McCluer, W. B.	Phenol Extraction Wins Place in Pennsylvania Lube Refining (also by D. W. Kenny)	Jan. 22,	R-26
Mekler, L. A.	Air Preheaters for Petroleum Heaters (also by H. A. Becker)	May 28,	R-162
Moore, L. W.	New Catalytic Reforming Process Easy to Convert to War Needs (also by D. J. Smith)	Apr. 2,	R-98
Nealy, V. L.	Cathodic Protection Prolongs Bundle Life	June 25,	R-206
Newton, N.	Sulfuric Acid Treatment of Bicarbonate Waters To Prevent Scaling	June 25,	R-195
Rhoades, C. N.	Chlorination Control Bio-Fouling of Water (also by D. R. Johnson)	June 25,	R-202
Sivertsev, A. P.	Obtain Up to 37% Iso-Octane In Catalytic Isomerization	Mar. 5,	R-68
Smith, D. J.	New Catalytic Reforming Process Easy to Convert to War Needs (also by L. W. Moore)	Apr. 2,	R-98
Summers, R. E.	Control Point Computed for Cracking Furnace	Apr. 30,	R-143
Trimble, H. M.	No Vapor Lock in New Cars With 25-lb. "Gas" at 30°F. (also by R. R. Couch and K. C. Bottenberg)	Jan. 8,	R-2
Van Voorhis, M. G.	Develop Interior Coatings for Aviation Fuel Drums	Apr. 30,	R-130
Zeitfuchs, E. H.	Speeds Viscosity Measurement in Capillary Type Viscometer	Apr. 16,	R-121

age

-18

-21

150

104

-126

R-93

Page

R-168

R-72

R-150

R-126

R-26

R-162

R-98

R-206

R-195

R-202

R-68

R-98

R-143

R-2

R-130

R-121

s